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## INTRODUCTION

This is a collection of basic reading on cable television.

It includes two reports by staff members of the Commission, two outside reports (one from the Dominion Bureau of Statistics, and one from a private agency) on Canadian cable television, the brief of the Canadian Cable Television Association, three Rand Reports, and a staff report of the Federal Communications Commission.

The first Rand report in this collection devotes about one third of its length to a study of the National Cablevision system in Montreal.

The second and third Rand reports deal chiefly with economics. The second report, by Johnson, summarizes many of the findings that are documented in considerable detail in the third report.

The FCC staff report, which is the final document in this collection, also deals chiefly with economics; and some of its findings, also, are summarized in the Rand report by Johnson.







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CABLECASTING: Summer, 1970







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## ABSTRACT

The purpose was to assess potential for community programming by cable systems and recommend a procedure for determining what should be required of such systems.

Seven systems engaged in cablecasting were studied, and the results have been divided into program aspects and financial aspects.

The systems were found to originate between 4 hours and 35 minutes, and 35 hours per week of local programs. Some systems repeated these programs frequently, others not at all. Community response to the service has so far been encouraging.

The minimum cost of cablecasting equipment was found to be about \$10,000 and the minimum annual budget for cablecasting was found to be approximately \$20,300 if the system were to produce four hours per week. It was found that the maximum amount of profit likely to be spent on cablecasting was 30 per cent, and that for a system to generate sufficient profit to cablecast, it would have to have 4,500 to 5,400 subscribers.

The study concludes by proposing three approaches to regulation of cablecasting: the requirement that all systems of more than 5,000 subscribers must originate local programs; a formula based on financial returns from the systems; or the development within the Commission of internal guidelines based on profitability and penetration, to be applied during the license renewal process.





## PREFACE

In May of this year, the Broadcast Programmes Branch initiated a study of community programming. Under the direction of R.W. Nichols, it was to assess the potential for community programming by individual cable systems and recommend an administrative procedure for determining how much might be expected of each system.

The original plan was to collect the information believed relevant to the study and collate it into a systematic form for examination and appraisal. It was thought that from the appraisal a formula could be devised which, when applied to the relevant information on each system would determine whether the system could be expected to cablecast, and if so, how much. Due to a lack of information on cable television, we were unable to develop the formula. In our initial attempts we encountered two major stumbling blocks: establishing what information was relevant; and discovering where it could be obtained. We decided to go back to fundamentals and develop an understanding of cable television in general and cablecasting in specific.

A Study was made of seven cable systems in Quebec and Ontario engaged in cablecasting.

The Systems were - National Cablevision  
London T.V. Cable Services  
Terra Communications  
Guelph Cable T.V.  
Rogers Cable  
Ottawa Cablevision  
York Cablevision

This report will attempt to present an overall picture of cablecasting, covering the areas from finance to programming, and also to offer some recommendations for the assessment of community programming.

R. Ellis  
R. James

September, 1970.





## THE PROGRAM ASPECTS





Cablecasting<sup>(1)</sup> began as an experiment about five years ago in Montreal, but its growth and development were slow for the first three and a half years. Then in May of 1969 the Commission announced guidelines for the CATV industry which encouraged local programming by cable systems. This appears to have been the turning point for the development and expansion of cablecasting. The part of the guidelines important to cablecasting development was this:

"CATV can assist in the development of a community identity through locally produced programs; they can also assist provincial and local authorities in the development of educational services. They can participate in the enrichment of the community's cultural life through the distribution of Canadian produced films, educational information and other films of particular interest produced for public showing but more normally available in that area. CATV local programming should complement rather than compete with, programming already available to the community through television and commercial movie houses."

Many concepts of what cablecasting should be have been presented to the Commission and quite a few have been put into practise. However we believe the total effect of this guideline has not yet been realized. To date, there are over forty systems either producing or prepared to produce local programs in the fall of 1970, with almost as many more prepared to initiate this service in the next few years.

The guideline stated clearly that local programming should complement rather than compete with programming already available and in general, the cablecasters have followed this. Programs are frequently produced for minority audiences -- old age groups, ethnic groups, etc. -- audiences which regular stations rarely reach.

Through cablecasting the community has been provided with a means of access to the medium, and consequently, most of the programs are produced by a co-operative effort between the cable systems and the community. In some cases, the cable system only supplies the facilities, and the various groups within the community supply the people both on and off camera to produce the programs.

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(1) In the report, we have used cablecasting to mean that part of a cable operation which deals with the distribution and production of locally originated programs. We have used the term cablevision, in general, to refer to the total service offered by the cable system.





More general however is the situation where the cable system supplies the equipment and the people to operate it, and the people on camera, and the content for the programs, come from the community.

The equipment used for the production of programs does not measure up to that of an orthodox television station, but the cost involved in setting up a studio seems to be a key factor in determining whether a cable system can involve itself in community programming. A studio can be set up for under \$10,000. Program costs are a fraction of what broadcasters are spending; very few of the people involved are ever paid and operating costs are generally kept very low. Programs are being produced for under \$100 per hour. Although the production values do not measure up to the standards of through-the-air broadcasters, the local nature and specific aim of the programs seem to make up for any lack in quality. The systems are producing anywhere from two to thirty-five hours of local programs, with as many as 157 different people appearing weekly in front of the cameras for one system. The average system is originating about 10 hours a week.

As a general observation, cablecasting has generated a great deal of excitement and interest in the communities and among the cablecasters. Although it is very difficult to evaluate the impact of this type of programming, surveys have been conducted to determine who is watching and if the programs are of value and interest. No concrete appraisal can be made, but one system, after being in operation for less than two months, conducted a survey which indicated that 24 percent of its subscribers were watching the community programs.

The majority of cable operators would like to offer this service to their subscribers but there are financial considerations. In a later section we will present both objective and subjective pictures of the financial aspects of cablecasting. But before that, some general information about community programming will be helpful.

### TYPES OF PROGRAMS

An insight into the various types of programs produced for community television is essential in developing an overall picture of community programming. For this reason we have tried to use the appropriate medium to convey this information. A video tape has been prepared from a collection of tapes sent to the study group from five of the systems visited. It is designed as a montage of community programming and we hope it will illustrate the content and quality of the programs these systems were producing during the winter and spring of 1970. We consider this videotape an integral part of this report, and urge anyone who is not familiar with community programming to spend thirty minutes to view it.





## SOURCES OF PROGRAMS

Programs used in cablecasting originate from three major sources.

Local origination is the most emphasized source of programming. It reflects and responds to the interests and needs of the community from which it originates; it is for the community, by the community. At Terra Communications in Mississauga a group of young people produce a half hour comedy program (bi-weekly), and involve themselves in everything from operating cameras to script writing. However, not all programs are produced this way. London T.V. Cable produces a weekly program for the aged called "Octogenarians". This program features a regular host -- a man of over eighty, who invites people of his own age to come on the show and discuss the problems of the day. Local origination can be unique and imaginative.

Exchange programs can be of either general or specific interest, but do not originate in the community where they are viewed. These programs can be extremely useful, especially when they are directed to ethnic audiences. Such programs appear to be essential in the development of a multi-language concept of programming. York Cablevision is producing twelve hours of Greek and Italian programs weekly. These programs will be exchanged among the various National Cablevision systems throughout the country where the programs are deemed valuable. However, it is not desirable to exchange tapes if the object is simply to fill the community channel. Nor is it always possible to exchange tapes. The various video tape recorders manufactured are not compatible with each other. Sony tapes, for example, can not be played on IVC recorders. In general exchange tapes do not contain the local element, and the value of the tape is consequently restricted.

Film is the third source, and as the guideline indicates can participate in the enrichment of the community's cultural life. Film is available from many sources including the National Film Board, which has recently completed an experiment with the Jarmain cable systems. In concluding this experiment, the Film Board has designed a contract for cablecasters which allows them to use the Board's material free, as long as the cablecaster does not receive any revenue for the program. In general most film is available at a nominal rental, and in some cases for only shipping charges. The major problem with films is that not all cable systems are equipped with tele-cine chains for displaying movies on television. We hope cablecasters will find ways to make the necessary investment, and add this valuable source to their programming service.

By the use of these three sources, cablecasters can offer programs to aid in the development of the communities they serve.





## QUANTITY OF PROGRAMS

The quantity of programs produced varies from system to system. All but one of the systems (National Cablevision) are still in the experimental stage, and although the average amount of programming produced by them is just under twelve hours a week, we do not feel this is an indication of their potential. National Cablevision has been producing programs for four and a half years and has increased the quantity of programming every year. (A schedule of National Cablevision's programming for one week is included as an Appendix). At this time we do not feel any speculation can be made about the quantity of programs but we will return to this subject later.

TABLE 1

### CABLECASTING

Weekly averages for  
month of June 1970

Name and starting date	(a) hours of local origination	(b) hours of non-local	(c) total hours per week (including repeats)
National Cablevision 35 hr. (Jan. 1966)		0	37 hr.
London T.V. Cable 18 hr. Services Ltd. (Sept. 1969)		6 hr. 22 min.	41 hr. 41 min.
Rogers Cable T.V. 9 hr. (Sept. 1969)		0	18 hr.
York Cablevision 17 hr. 26 min. (May 1970)		3 hr. 15 min.	22 hr. 10 min.
Terra Communications 8 hr. 3 min. (Oct. 1969)		15 min.	16 hr. 1 min.
Guelph Cable T.V. 12 hr. 28 min. (Mar. 1970)		3 hr. 14 min.	23 hr. 45 min.
Ottawa Cablevision 4 hr. 35 min. (Feb. 1970)		0	4 hr. 35 min.

### NOTE

Although all the systems have indicated they will increase their hours of cablecasting in the Fall, the cablecasting being done should be considered experimental, and not necessarily reflecting their plans for the future.



## RESPONSE TO COMMUNITY PROGRAMMING

The community requires access to the broadcast media. A great deal of effort has been made in establishing cable television policies to assure that the communities are not denied this right. Cablecasting must respond to the community; but this does not mean the community will easily respond to cablecasting. As a matter of fact, one of the major problems the cablecaster must overcome is reaching the community and informing it that cablecasting exists.

The cablecaster must first be a public relations man, going out to all areas of the community to explain the concept of community programming and encourage the various groups and individuals to participate in the new community service.

The response of the communities to the various systems we visited was very encouraging, but it should be kept in mind that the efforts made by each system to encourage participation were extensive.

These systems reached the community in various ways:

- mailing letters to all subscribers and interested parties outlining the purpose of community television and asking for suggestions and participation;
- displaying a card on the community channel asking for program suggestions;
- advertising in local newspapers special programs to be carried to attract a large audience and then before showing such a special program, explaining briefly about cablecasting and asking for participation and suggestions.

It is naturally of great interest to the cablecaster whether his programs have an audience and if the programs are of any value. To find out the former, surveys have been conducted to determine the size of the audiences. Terra Communications conducted an interesting one where they give prizes to people watching the community channel, who called in when their name was read during a break in the evening's programming. The result was nearly a 100 percent response to the first reading of a name. This survey was very expensive and consequently only lasted for a month. The prizes, were donated by local retailers who received recognition for offering the gift.





Determining the value of programs is a much more difficult problem. To date, we have little concrete evidence. However, certain incidents have encouraged the cablecasters to continue to improve their programming. One such incident occurred in London, where a number of young people suffering withdrawal from bad drug experiences were asked to participate in the community programming. The results have been remarkable. Where the doctors were unable to get these people to respond to treatment the Cablecaster was successful, to the point of having them work regularly and responsibly on various community programs. This might appear as a very expensive form of treatment, but it might also indicate that the value in cablecasting might have to be arrived at indirectly.

In general, the initial response of the community to its new service has been very encouraging. However, the true test of cablecasting will be its success or failure over the next few years when, as one cablecaster said, the honeymoon is over, and the novelty wears off. Will the people still be willing to participate?





THE FINANCIAL ASPECTS



## OUTLINE TO FINANCIAL SECTION

- I REVENUE
- II EXPENDITURE
  - A. Cablecasting Costs
    - 1. Capital Costs
      - (i) Equipment
      - (ii) Studio Units
    - 2. Operating Costs
- III PROFIT
  - A. First Attempts - The Seven Companies
  - B. Second Attempts - Company Financial Statements
    - 1. Average Profit
  - C. Amount of Profit to be Spent on Cablecasting
    - 1. Effects of Income Taxation on Profits and Cablecasting Costs
    - 2. Percentage of Profit to be Spent on Cablecasting
- IV MINIMUM SIZE OF SYSTEM TO CABLECAST





## Financial Aspects of the C.A.T.V. Industry

### I Revenue

The revenue for each company is reasonably easy to obtain. It is a product of the number of subscribers and the average yearly rate of subscription. This rate considers individual household rates, bulk rates and extra outlets.

Individual household rates are self-explanatory and in almost all the systems we looked at individuals made up a majority of the subscribers.

Bulk rates are special rates negotiated between the cable company and an apartment owner. They vary within any one system, and the average of these special negotiated bulk rates is less than the individual rate.

In 1968, according to the Dominion Bureau of Statistics report on the C.A.T.V. industry, out of a total of 377 companies, 37 or 10 percent collected a revenue of \$400,000 or greater, 21 or 5 percent of the companies collected between \$200,000 and \$399,999, 37 or 10 percent had a revenue between \$50,000 and \$99,999 and the remaining 245 companies or 65 percent of the companies collected only a revenue of \$50,000 or less.

Revenue varied from as low as \$1,000 to as high as \$5-million.

### II Expenditure

Cablevision costs are costs incurred through setting up and maintaining a cable system. Except for one company, up until 1969 these were the only costs a company incurred. In 1969, the C.R.T.C. announced policies encouraging the C.A.T.V. industry to do local programming or cablecasting.

#### A. Cablecasting Costs

##### 1. Capital Costs

These are costs incurred through the purchase of cablecasting equipment.

##### (i) Equipment

Studio equipment varies in size and price. There are four major manufacturers of equipment: SONY, I.V.C., AMPEX and PHILIPS.





Cameras:

Vidicon, plumbicon and lead-oxide cameras are popular for cablecasting; they require more light than an image orthicon but are light and portable. Both vidicon and plumbicon cameras are available in both monochrome and colour.

Video-Tape Recorders:

These also vary in cost and can come with or without an automatic editing unit. The width of the tape is variable but a 1" tape is generally used.

Switcher:

These are available from the minimum of a three monitor straight switch to the sophisticated commercial broadcasting models with special effects. Switches are usually designed for the need of the studio, and additions can generally be made with little difficulty.

Tape:

Video tape is manufactured by a number of domestic companies and is generally good for about 60 plays.

Telecine chain:

These are available with 35 mm. slide projector and 16 mm. film projectors, both in monochrome and colour.

Mobile Unit:

This item is extremely important in the production of local programs. A number of the systems we visited -- York Cablevision, Ottawa Cablevision, and Terra Communications -- used an old cable van to transport, quite adequately, their easily portable studio equipment. As a company increases its investment in cablecasting, it may purchase a separate mobile unit. Of the systems we visited London T.V. Cable Services and Rogers Cable T.V. have done this.

(ii) Studio units

Studio units vary in cost depending upon the quality and quantity of equipment used. Below are three studio units, itemized by type of equipment. The first two are monochrome SONY UNITS; the first being what we consider a minimum cost unit with which one can cablecast. It consists of only one camera and this does restrict programming. But it is a viable unit. Its price is approximately \$10,000. The second SONY UNIT, is a slightly larger one. The main



difference is that there are two cameras and they are more sophisticated. Its price is approximately \$25,000.

The third studio unit is larger yet, and has colour capability. I.V.C. manufactures this one, and as a package kit its industrial price is \$69,600. SONY has a somewhat similar colour package kit. AMPEX units are considerably more expensive with one colour camera alone costing around \$50,000.

The minimum studio unit, (\$10,000 - monochrome; SONY)

<u>EQUIPMENT</u>	<u>COST</u>
1 vidicon camera	\$ 2,000
1" V.T.R. camera	4,000
Switcher	750
Audio Mixer	150
3 microphones at 50 dollars	150
Lighting Kit	500
Lighting Grid	200
Modifications (studio, installation)	<u>1,500</u>
TOTAL	\$ 9,850 (Without Tax)
Total Cost Approximately	\$10,000

A \$25,000 monochrome unit, (\$25,000 - monochrome, SONY)

<u>EQUIPMENT</u>	<u>COST</u>
2 lead-oxide cameras	\$11,000
(automatic zoom at \$5,500)	
1" V.T.R. (automatic edit)	5,500
Switcher (special effects)	1,000
Audio Mixer	150
5 microphones	250
Lighting Kit	700
Lighting Grid	300
Studio Modifications (installations)	1,500
E.I.A. Sync. Generator	300
Tapes (10 at \$60)	600
Telecine chain	1,600
Air conditioning unit	<u>2,000</u>
TOTAL	\$24,900 (Without Tax)
Total Cost Approximately	\$25,000





I.V.C. Colourcaster III, (Package Kit \$69,500)

EQUIPMENT

Studio camera I.V.C. - 90

V.T.R. I.V.C. - 870

Film chain I.V.C. - 92

Video switcher

Audio Cartridge Recorder

Audio Console

Auxiliary Equipment

- 2 microphones

- 2 black and white picture monitors

- 1 master colour monitor

- 1 waveform monitor

- 1 E.I.A. Sync generator

- 1 Signal distribution system

- 2 intercom headsets

- 2 intercom amplifier modules

- 1 light control unit for film chain

- studio lighting system

- operating consoles

- all interconnecting wires

Studio Modifications (installations)  
Extra

2. Operating Costs

We refer here to the cost a cable company incurs in cable-casting over the course of a year. For our purposes, depreciation is included. This cost will vary depending on the quality and quantity of programming done. The seven companies visited had operating costs from \$20,000 to \$100,000.

Table #1

COSTS OF COMPANIES VISITED

<u>Companies</u>	<u>Capital Cost</u>	<u>Operating Cost</u>	<u>Hrs. of Local Origination/Wk.</u>
Rogers' Systems	\$ 200,000	\$ 100,000	9
National Cablevision	94,000	100,000	35
London T.V. Cable Services	100,000	65,000	18
Ottawa Cablevision	80,000	65,000	4
York Cablevision	75,000	65,000	17½
Terra Communications Ltd.	20,000	42,200	8
Guelph Cable T.V.	17,500	20,000	12½

The Elements of Operating Costs and Variable Quantity of Programming

Whether the minimum studio of \$10,000 or the slightly larger \$25,000 studio were installed, the elements constituting the costs of operation would be approximately the same.



As well, varying the number of hours of programming per week within the framework of four to eight hours will make only a minimal difference in the operating cost. The only elements of the operating cost which will vary in this range of hours are wages of the part time men where the increasing returns have been estimated and correspondingly the miscellaneous office expense, and the inventory of tapes.

#### Cost Per Programming Hour

Table #2 below shows how programming cost per hour changes as the number of hours of local programming increases.

#### Minimum Operating Cost

From Table #2 below, we note that the minimum annual operating cost to do local programming is \$20,259 or approximately \$20,300. This cost is to do four hours of local programming a week.





Table #2

Showing Operating Cost; Cost Per Programming Hour

<u>Elements of Annual Operational Costs</u>	<u>Amount of Local Programming</u>		
	<u>4 hours</u>	<u>6 hours</u>	<u>8 hours</u>
1 Full Time Man (1)	\$ 8,000	\$ 8,000	\$ 8,000
2 Part Time Men (2)	2,496	3,120	3,744
Studio Rentals	3,600	3,600	3,600
Inventory Tapes	420	600	780
Tel. & Travel	700	700	700
Miscellaneous Expenses (3)	3,043	3,204	3,364
Depreciation (Minimum Unit) (4)	2,000	2,000	2,000
Depreciation (\$25,000 Unit) (5)	5,000	5,000	5,000
Total Annual Operating Cost (Minimum Studio)	\$20,259	\$21,104	\$22,188
Total Annual Operating Cost (\$25,000 studio)	\$23,259	\$24,104	\$25,188
<u>Cost Per Programming Hour</u>			
Minimum Studio	\$ 97	\$ 68	\$ 53
\$25,000 Studio	112	77	61

(1) Part Time Men: Camera men who also perform general studio work, and are paid \$2.00 hourly. It is estimated it will require three hours of work to produce an hour of program. As the number of hours of programming increases, the hours of work required to produce an hour of program will diminish. It is estimated that at six hours of programming per week, two and a half hours of work are required to produce one hour of programming. At eight hours per week, the ratio drops to  $2\frac{1}{4}/1$ .

(2) Cost For Studio Rental includes heat and light and the cost is estimated at \$300 per month.

(3) Miscellaneous Office Expense includes primarily salaries paid to extra personnel from other departments; and interest charges. Twenty percent of operating costs (excluding depreciation) was the estimate.

(4&5) Five Year Straight Depreciation



Table 3

Weekly Cablecasting Averages for June 1970

<u>Company</u>	<u>Hours of local Origination</u>	<u>Estimated Costs Per Hour For Local Origination</u>
Rogers' Systems	9	\$181
National Cablevision	35	54
London T.V. Cable Services	18	69
Ottawa Cablevision	4	205
York Cablevision	17½	71
Terra Communications	8	101
Guelph Cable T.V.	12½	62

Note: a) The above figures for the month of June are not necessarily representative of their activity for the year.

b) The above figures do not include hours of repeated programs; this would reduce the cost per hour of programming substantially.

### III Profit

Profit or net operating revenue (or expense, if a loss) is simply the difference between the total operating revenue and the total operating cost. It is this quantity that is subject to income tax.

It is the gross profit <sup>(1)</sup> before income tax that we must look at in determining whether or not a company can afford to cablecast. According to our calculations the minimum gross profit per year required to cablecast is \$20,259, and this would leave the company with no net profit -- hardly an acceptable situation over the long run.

The question is whether a point can be established at which a company can spend this minimum amount of \$20,259 in order to cablecast, and at the same time earn an acceptable minimum profit.

#### A. First Attempts - The Seven Companies

Our first route was to look at the seven companies we visited and determine their profits. An estimate of the profits can be made using information provided by the D.B.S. 1968 report on the CATV industry <sup>(2)</sup>. This method, then gave us some profit

(1) From now on profit will mean profit before income tax unless specifically stated otherwise.

(2) See Table 5 below. Footnote #2.



estimates on the seven companies but it was hardly a representative sample of the industry, as six of the seven companies in 1968 were in the revenue category that represented only 10 percent of the total industry. <sup>(1)</sup>

#### B. Second Attempt - Company Financial Statements

The financial statements <sup>(2)</sup> of 235 cable companies were examined and special attention was given to the profit or loss of each.

The information obtained on profits is shown in Table 4.

Table 4

Companies showing profit	179
Companies showing loss or just breaking even	43
Companies not providing enough information	<u>13</u>
Total Number of Companies	235

##### 1. Average Profit

In most cases the companies not making profit are relatively young companies. It is fair to assume that only companies making a profit should be expected to begin to cablecast. The average profit of the 179 companies was 25 percent.

At present there are just under 400 cable companies operating in Canada. Approximately one-third of them did not submit financial returns. <sup>(3)</sup> Among those not providing enough information or not submitting returns were four of the largest and most mature of the seven companies we visited: Rogers' Systems, York Cablevision, Ottawa Cablevision and National Cablevision. Also, Canadian Wirevision of Vancouver, the largest system in Canada, did not submit an annual report. Taking into consideration its size and maturity, we estimated its profit as at least 30 percent. London Cable T.V. Services showed a 47 percent profit in 1969. Thus, we have, on the one hand, a profit average of the 179 reporting companies of 25 percent, but these companies make up only two-thirds of the industry and the one-third not accounted for includes the largest and most mature companies whose profits, we estimate, should be in excess of 30 percent. We estimate that the profit average of all those companies in the entire industry making a profit is in the range of 25 to 30 percent.

(1) D.B.S. 1968 CATV report.

(2) Annual Return of Broadcasting Licensee, Community Antenna Television 1969.

(3) Companies were not required to submit Annual Return for 1969.





Table 5

<u>Cable Company</u>	<u>No. of Sub- scribers 1970 '000's</u>	<u>Monthly Rate Per Indivi- dual Sub- Scriber</u>	<u>Annual Revenue 1970 '000's</u>	<u>Estimated Profit 1970 (before Income Tax) <sup>(1)</sup> '000's</u>
London T.V. Cable Services	39	\$5.00	\$1,800	\$ 414
Rogers' Systems	42	4.50	2,520	580
York Cablevision	30	4.50	1,587	365
Terra Communications	3 (2)	4.50	102	11
Guelph Cable T.V.	13	4.50	566	130
Ottawa Cablevision	38.8	5.00	1,762	405
National Cablevision	81	5.00	4,260	1,850

C. Amount of Profit to be Spent on Cablecasting

What percentage of a cable company's profit should reasonably be spent to originate programs? We compared some through-the-air broadcasters and the seven cable companies we visited.

An examination of the Annual Returns of 1969, for the four television stations shown in Table 6 was carried out and the results are shown in the table.

(1) D.B.S. 1968 Report on C.A.T.V. The Report showed a 23% profit for companies having an annual revenue greater than \$400,000 and an 11% profit for companies with an annual revenue greater than \$100,000. In this column, the same 1968 profit percentages are applied to the 1970 annual revenues to give an estimated annual profit. This estimated annual profit does not consider on the one hand, increased expenses due to cablecasting, or on the other hand, slightly increased profits in a maturer company.

(2) At present, only 1,500 paying subscribers.



Table 6

T.V. Broadcasting Stations - Percentage of Profit and Revenue  
Spent on Local Origination

TV Station	Tot. Oper. Revenue nearest '000	Cost for local origination nearest '000	Profit before local origination expense nearest '000	% profit spent on local origination 1969	% of Revenue spent on local origination 1969
CFPL	\$ 3,473	\$ 187	\$ 1,505	12	5
London					
CKRD	464	43	79	55	11
Red Deer					
CJOH	4,332	505	1,724	29	12
Ottawa					
CKCW	1,101	48	194	25	5
Moncton					

Averaging the percentage of profit spent on local origination yields a  
figure of 30 percent.

(1) Annual Return of Broadcasting Licensee, Radio and Television, 1969.





Table 7

Companies Visited - Per Cent of Profit and Revenue

Spent on Cablecasting

Cable Companies	Cablecasting Costs Fiscal Period 1969-1970	Estimated revenue for fiscal period Sept. 1 69 - Aug. 31 1970(1) '000's	Revenues 1970 '000's	Profits 1970 (2) '000's	% 1969-70 Revenue spent on Cablecasting	% 1970 profit spent on cablecasting
London T.V. Cable Services Ltd.	\$ 65,000	\$ 1,700	\$ 1,800	\$ 414	4	16
Rogers' Systems	100,000	2,000	2,520	580	5	17
York Cablevision	65,000	1,349	1,587	365	5	18
Terra Communications	42,200	83	102	11	51 (3)	384 (3)
Guelph Cable T.V.	20,000	522	566	130	4	15
Ottawa Cablevision	65,000	1,412	1,762	405	5	16
National Cablevision	100,000	(4)	4,260	1,850	2½ (5)	5

(1) Since all the companies except National Cablevision began cablecasting in late 1969 or early 1970, the revenue of the fiscal year September 1, 1969 to August 31, 1970 would be a more relevant figure. This estimate was obtained by merely averaging the 1969 revenue obtained from the Annual Reports, and the 1970 revenues.

(2) See Footnote 1. Page 8. Profits for fiscal period 1969-70 not available.

(3) Terra Communications is a part of Noram Ltd. which is a subsidiary of I.W.C., a manufacturing company and not a cable company.

(4) The 1969 revenue was unavailable for National Cablevision as they did not submit a 1969 Annual Return.

(5) This refers to the % of 1970 revenue spent on Cablecasting.



Excluding National Cablevision, which has been cablecasting for close to 5 years, and Terra Communications, the companies average 16.4% of their profit into cablecasting. It must be noted that all these companies are very mature and, as such, show a relatively high profit/revenue ratio; well above the average.

Each of four of the seven companies is part of a system of cable companies. This can allow for a transfer of funds within the systems to facilitate the financing of cablecasting. York Cablevision and National Cablevision belong to a large cable system; Guelph is a part of the MacLean-Hunter chain, and London T.V. Cable Services the dominant member of the Jarmain Cable Systems Ltd. Terra Communications is an oddity in that its cablecasting is heavily subsidized by its non-cable parent companies.

#### Effects of Income Taxation on Profits and Cablecasting Costs

All taxable income over \$35,000 is taxed at a rate of approximately 50 percent. Taxable income is the difference between the total operating revenue and total operating cost; or that which we have been referring to as profit. Cablecasting costs will be an element of the total operating expense and as such will diminish the income subject to taxation.

Model systems will show the effects of taxation clearly.

Let us consider model companies earning \$70,000 profit before taxation or cablecasting costs. The cablecasting costs of the second model company amount to \$ 20,000; the first company does no cablecasting.

#### Tax Regulations:

1. Taxable Income up to 35,000, 18% tax
2. Balance of taxable income, 47%
3. Surtax of 3% on total of tax paid up to this point
4. Old age security tax on the total taxable income of 3%.

#### First Model - No Cablecasting

1. Profit before tax		\$70,000
2. 18% Tax on first 35,000	\$ 6,300	
3. 47% Tax on balance of 35,000	<u>16,450</u>	
Tax Subtotal	22,750	
4. 3% surtax	683	
5. 3% old age Security tax	<u>2,100</u>	
Total Tax		\$25,533
Net Profit		<u>\$44,447</u>



Second Model - With Cablecasting:

Profit before cablecasting and tax	\$70,000	
Cablecasting Cost	<u>20,000</u>	
Taxable Income		\$50,000
1. 18% tax on first 35,000	6,300	
2. 47% tax on balance of 15,000	<u>7,050</u>	
Tax Subtotal	13,350	
3. Surtax of 3% on total of tax paid up to this point	401	
4. 3% tax on total taxable income	<u>1,500</u>	
Total Tax		<u>\$15,251</u>
Net Profit		<u>\$34,749</u>

Thus an initial cablecasting cost of \$20,000, after the effect of income tax, becomes an actual expense of only \$9,698.

2. Percentage of Profit to be Spent on Cablecasting

Now, we can use the information that has just been outlined to arrive at a specific maximum percentage of profit (before taxes) that should be spent on cablecasting by the minimum sized company. The information that is to be considered is as follows:

- (a) the four broadcasting T.V. stations showed an average of 30 percent of profit (before taxes) spent on local origination.
- (b) the 16.4 percent average of the five companies we visited were all very mature and several were parts of larger systems.
- (c) the actual cost of cablecasting is much less than the before-tax cost - up to 50 percent less.

Considering these three factors, we think the maximum percentage of profit likely to be spent on cablecasting is approximately 30 percent.

IV Minimum Size of System to Cablecast

First of all a brief summary of the relevant figures is required in determining the minimum sized system.





A. On the basis of the Annual Returns of cable companies, and that they amounted to approximately 67 percent of the industry, we estimated that the average profit of companies mature enough to be at least doing better than breaking even, was between 25 and 30 percent.

B. We decided that the maximum percentage of profit to be spent on cablecasting should be approximately 30 percent.

C. The minimum total operating cost to cablecast is \$20,259.

A. The Minimum System

Assumption 1: Minimum total operating cost is \$20,259.

Assumption 2: Maximum percentage of profit likely to be spent on cablecasting is approximately 30 percent.

Conclusion 1: The minimum profit required to generate above minimum cablecasting cost is \$67,530.

Assumption 3: Minimum profit required in order to cablecast is \$67,530.

Assumption 4: The average profit of profit making companies in the CATV industry falls between 25 and 30 percent.

Conclusion 2: The minimum total operating revenue required to generate minimum cablecasting cost falls between \$225,100 and \$269,036.

B. Number of Subscribers

From a sample of 33 of 179 cable companies showing a profit, an average yearly rate per subscriber of \$50 was obtained. Although many of the companies charge between \$4.50 and \$5.00 per month per individual subscriber, the average is diminished by special bulk rates. Price per extra outlet is also considered in the average yearly rate.

Recall from Part I on Revenue that the total operating revenue is obtained by simply multiplying the average yearly rate by the total number of subscribers.



(i) Minimum System A

Assumption 5: Minimum total operating revenue required to generate the minimum cablecasting cost is \$225,100.

Assumption 6: Average yearly rate per subscriber is \$50.

Conclusion 3: The minimum number of subscribers is 4,502.

(ii) Minimum System B

Assumption 7: Minimum total operating revenue required to generate the minimum cablecasting cost is \$269,036.

Assumption 6: Average yearly rate per subscriber is \$50.

Conclusion 4: The minimum number of subscribers is 5,381.

Accordingly, we can conclude that the minimum number of subscribers for a system wishing to begin cablecasting falls somewhere between 4,500 and 5,400.





## RECOMMENDATIONS FOR THE ASSESSMENT OF COMMUNITY PROGRAMMING

We conclude by offering three ways to assess community programming offered by cable system. As mentioned earlier in the report, cable operators are generally in favour of local programming but they show some concern over the financing of it. From our study, we can, to a certain extent, understand their anxieties. Consequently, it might be thought that where it is not financially possible to cablecast an additional source of revenue should be sought -- either by increasing subscription rates or by selling advertising for the community channel. At present we do not support either of these methods. Our study showed a system can cablecast without an additional source of revenue, and the basis for our analysis rests in part with this precept. As well, if local programming is considered a desirable service, it may very well prove to be a marketable product inducing an increase in subscriptions and therefore an increase in revenue.

### Alternative I

This recommendation follows from the results of the financial analysis and an examination of the FCC regulation, where cable systems of 3,500 subscribers or more are to provide a community channel.

The FCC's definition of community programming is ambiguous and does not necessarily mean programs produced by the CATV system but essentially programs that would not otherwise be provided. In many cases these programs could be supplied by employing the use of VTR's and various video tapes, and avoid the expense of local origination. In addition advertising is allowed on community channels. Thus, the situation of Canadian cable companies with respect to financing of cablecasting is quite different from that of cable companies in the United States.

From the financial analysis we arrive at the conclusion that a minimum maximum range from 4,500 - 5,400 subscribers exists where cablecasting is financially feasible. From this we arbitrarily draw a line at 5,000 subscribers, and require all systems at or above this level to cablecast. A chart has been designed to illustrate the position of 210 cable companies with regard to their size and potential. It should be noted that there are nearly 400 licensed systems in Canada.



Table 1

<u>CATEGORY I</u>	Systems or companies whose present subscription and potential number of subscribers in the licensed area do not allow them to cablecast according to the 5,000 subscriber recommendation.
<u>CATEGORY II</u>	Systems whose present subscription is under 5,000 subscribers, but where the potential of the licensed area is greater than 5,000 subscribers. Eighty percent penetration is used as a maximum penetration.
<u>CATEGORY III</u>	All systems of over 5,000 subscribers, which under Alternative I would be required to cablecast. Again, as for each category, an 80 percent penetration is considered maximum.

SUMMARY OF GROWTH FLOW CHART

	<u>Ontario</u>	<u>Atlantic Provinces</u>	<u>Quebec</u>	<u>Western Provinces</u>	<u>Canada</u>
<u>Category I</u>	48 systems	8	67	26	149
	44,191 subs.	5,485	44,466	33,135	127,277
<u>Category II</u>	15	0	7	5	27
	45,977	0	10,489	15,988	72,454
<u>Category III</u>	23	0	6	5	34
	360,431	0	172,252	42,891	575,564
<u>Totals</u>	86	8	80	36	210
	450,599	5,485	227,207	92,014	775,305

See Appendix II for complete list of 210 systems.

Alternative II

This alternative takes us back to the original idea of developing a formula. By using the new financial returns that cable systems will be required to file for 1970, an appraisal of each system, with respect to cablecasting, could be made. The question of cablecasting could then become a condition of licence.



### Alternative III

A third alternative still exists--an alternative which is of an abstract or immeasurable nature, and considers information that has a definite bearing on the position of the industry. It does exist and should be considered. This information is critical in achieving a realistic picture of cablecasting in the industry. In entertaining this third and last alternative, the following items should be considered.

The above recommendations have been made on the basis that cablecasting will be of marketable worth for the cable system, and consequently additional revenues will not be required. Although in theory this seems to be the case, only time will prove it to be true.

Second, the guideline itself has generated enthusiasm and initiative in the industry. Most of the companies which are recommended to cablecast above, are already involved in cablecasting in fact, some which we would not recommend are presently cablecasting. The guideline has also had the effect of inspiring cable companies to imaginative methods, and to accomplish in some cases feats which are usually considered financially impossible by broadcasters.

A third consideration is that a regulation may hamper the growth of community programming by interfering with the natural growth of the service and misleading cable operators with regard to their potential.

Fourth, to avoid making a mistake with regulations in the very early stages of cablecasting, we think a further study should be conducted making more effective use of the Annual Returns. The new Annual Return Forms will provide more information and from August 31, 1970, the forms must be returned by all systems. A more complete and objective picture will be achieved using this new source of information.

In conclusion, alternative III recommends, in effect, no formal regulations on who should cablecast. The Commission will have its own guidelines but for internal use only. Each system's performance in cablecasting will be appraised in the context of the Commission's internal guidelines, and at the time of applying for a renewal of licence. It is thought that this individualistic approach will be effective and, at the same time, allow each system to set its own goals. As long as the applicant performs adequately, according to the internal guidelines, he will encounter no sanctions; it is only when he falls behind that he will meet with sanctions from the Commission. Cablecasting will not be hampered by this method, and will be allowed to develop as an effective community service and to contribute to the development of a Canadian broadcasting system.





A Sample Week's Schedule of Cablecasting



## WEEKLY SCHEDULE - NATIONAL CABLEVISION

## APPENDIX I

## PROGRAMMES ON CHANNEL 9 CABLEVISION en vigueur le 2 sept./70

TIME	PROGRAMMES ON CHANNEL 9 CABLEVISION en vigueur le 2 sept./70				
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
10:00					
2:00	Nouvelles en langue grecque	Nouvelles en langue grecque	Nouvelles en langue grecque	Nouvelles en langue grecque	Nouvelles en langue grecque
2:15	Nouvelles en langue italienne, Carlo Garofoli et Ricky	Nouvelles en langue italienne, Carlo Garofoli et Ricky	Nouvelles en langue italienne, Carlo Garofoli et Ricky	Nouvelles en langue italienne, Carlo Garofoli et Ricky	Nouvelles en langue italienne, Carlo Garofoli et Ricky
2:30	LET'S BE MODERN, avec Molly Sacks	THE FAMILY PET SHOP, avec Maurice Nadler	POUR VOUS MADAME, avec Denyse Fieury 60 minutes	SCOUTING and ACTION, avec John Paquet	COSY CORNER avec Barry Moore et Suzan Goldberg 60 min.
3:00	A LA TRICOTEUSE, avec Guy Roy	POT POURRI, avec Betsie Hurst	" "	EN BONNE FORME, avec Mathilde Rondeau	" "
3:30	IN MEMORIAM, avec Marcel Farley et Yvette de l'Isle	IN MEMORIAM, avec Marcel Farley et Yvette de l'Isle	IN MEMORIAM, avec Marcel Farley et Yvette de l'Isle	IN MEMORIAM, avec Marcel Farley et Yvette de l'Isle	IN MEMORIAM, avec Marcel Farley et Yvette de l'Isle
4:00	CABLEVISION RECORT	VERS LE PROGRES, avec D.P.	MEUBLES et DECOR, avec Pierre Lebel décorateur assembleur	LA FEMME INGENIEUSE, avec Nicole (Bailly) Lipkens	JEAN N'ARRACHE interprété par Eddy Tremblay
4:30	M. and Mr. CAPITOL, avec Jacques Amann	A LA BONNE BOUCHE, avec Jacques Roy	CARNET DE VOYAGES, avec Armand Sauvé, 60 minutes	KARATE CLUB	COUP D'OEIL sur L'AUTRUCHE, avec le Dr Klaus Lukas





WEEKLY SCHEDULE - NATIONAL CABLEVISION

PROGRAMMES ON CHANNEL 9 CABLEVISION en vigueur le 2 sept/69

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
5:00	MES ANIMAUX MES AMOURS, avec Lionel Chayer et Colette Desjardins	LA DECOUVERTE DU BEAU PARLER, avec Suzanne Marrot	" "	LE POLICIER EDUCATEUR, avec la collaboration du corps policier de Montréal	L'UNIVERS du DISQUE, avec Claude Lavoie
5:30	Emission en langue grecque	L.S.D. POT avec Marcel Gagnon	En jardinant avec Paul Pouliot, agronome	60 minutes "	Feu Rouland avec André Pierre (première partie)
6:00	Dialogue Oriental (arabe) avec Elie Antoun Bacha	La Croix Rouge Canadienne	La Semaine aux Editions de l'Homme avec Michèle Mailhé et Jean-Louis Morgan	Secourisme au Foyer avec Gustave Diseur de l'Ambulance St-Jean	Hebdo Jeunesse avec Danielle Dominique
6:30	Emission en langue italienne avec Carlo Et Ricky (60 min)	Allons à Blue Bonnets avec Jean Guy Forget, Serge Dionne et Pierre Lou Lévêque	Pour Vous Madame, reprise de l'émission de 2:30h (60 min)	Jeunesse et Carrière Emission spéciale	Feu Roulant (2e partie)
7:00	" "	SPORT EXTRA, avec Lefty (Marcel) Boisvert	" "	SPORT ILLUSTRÉ, avec Jacques Vanasse	Jeunesse et sport avec J.P. Renaud et Guy Aubé
7:30	POT POURRI, avec Betsie Hurst	ANTENNE SUR LAVAL, avec Yvette de l'Isle et Lionel Laramée	Scouting & Action avec les Boys Scouts du Canada	LA SERENADA DEFILE DE MODES	Père et Fils (Bricolant avec Yvon Rockwell)
8:00		NOUVELLES 8:00 Grecques 8:15 Italiennes	NOUVELLES 8:00 Grecques 8:15 Italiennes	NOUVELLES 8:00 Grecques 8:15 Italiennes	NOUVELLES 8:00 Grecques 8:15 Italiennes
8:30					

L'horaire de ces émissions est publié dans TV Hebdo, La Presse, et



210 Cable Television Systems, by Size and Potential

Category I:                      Potential of less than 5,000 subscribers

Category II:                    Less than 5,000 subscribers, but potentially more

Category III:                  More than 5,000 subscribers



CATEGORY I

- 1 -

ONTARIO

NAME	LOCATION	NUMBER OF SUBSCRIBERS	PENETRATION PERCENTAGE
Airland Communications	Strathroy	1023	51.1
Bracebridge	Bracebridge	455	47.8
Brockville Amusements	Brockville	106	53.0
Cablevision	Hawksbury	1177	49.0
Clearview Cable TV	Simcoe	1131	33.2
Deep River Video	Deep River	732	45.8
Dryden Community	Dryden	900	45.0
East Elgin Cable	Aylmer	950	63.3
Essex Cable TV		760	18.2
Fergus-Elora	Fergus	800	34.8
Fred Lang TV Ltd.	Kirkland Lake	3025	73.7
Georgetown Cable	Georgetown	998	17.1
Geroy Radio	Manitouwadge	410	49.8
G. E. Young	Chapleau	220	44.0
Gore Bay CATV	Gore Bay	154	59.9
Gravenhurst Cable System	Gravenhurst	670	78.8
Grimsby Cable	Grimsby	950	28.5
Haliburton CATV	Minden	304	44.0
Harry Assad	Geraldton, Beardmore	569	63.2
Hastings Cable	Madoc	226	53.8
J. A. Brown	New Liskeard	560	59.1
J. A. Brown	Haileybury	182	24.2
Jarmain Cable System	Newmarket	2565	51.3
Lakeshore CATV	White River	79	35.1
Lakeshore CATV	Terrance Bay	378	95.0
Lavigne	Timmins	787	78.7
Lelliott	Cobourg	131	41.8
Lelliott	Aurora	1422	40.6
Lindsay CATV	Lindsay	1034	27.2
Maclean-Hunter Cable TV	Huntsville	1241	82.4
Maclean-Hunter Cable TV	Collingwood	2153	75.7
Maclean-Hunter	Midland	4025	84.1
Norcom	Kenora	-0-	-0-
Northgate	Hamilton	385	7.9
Nor-Video	Atikokan	950	63.3
Orangeville Cable-Vu	Orangeville	446	20.6
Orillia Cable TV	Orillia	3914	71.1
Pembroke Cable	Pembroke	2082	40.0
Peninsula Utilities	Marathon	615	98.4
Quinte Cablevision	Picton	150	12.5
Radio & TV Distribution	Parry Sound	1271	63.5
Redden	Campbellford	350	35.0
Smith Falls Cablevision	Smith Falls	167	5.1
Television Hornepayne	Hornepayne	150	37.5
Terra Communications	Mississauga	1420	28.4
Till-Cable TV	Tillsonburg	961	40.0
Wawa Cablevision	Wawa	675	63.7
Willowdowns Cable	Willowdale	538	15.8





# ATLANTIC PROVINCES

Alexander Weatherby	St. Stephen, N.B.	222	15.9
Eastern Cablevision	Truro, N.S.	685	13.2
Guerette Television	St. Quentin, N.B.	156	39.0
Guerette Television	Kedgwick, N.B.	140	62.2
H & B Communications	Edmunston, N.B.	1827	69.6
Northshore Community	Campbellton, N.B.	903	30.1
Sydney Thistle	Baie Verte, Nfld.	300	
Woodstock Community	Woodstock	1252	83.4

# WESTERN PROVINCES

Aristocrat Cookware Ltd.	Salt Springs Island		
	B.C.	327	27.4
Banff Community Antenna	Banff, Alta.	110	
Barlow	Kelsey Bay, B.C.	112	
Benson Lake	Benson Lake, B.C.	50	100.0
Campbell River	B.C.	4338	96.4
Central TV Systems	Revelstoke, B.C.	1931	85.0
CESM Television	Man.	631	25.2
Co-Ax Television	Weyburn, Sask.	2025	81.0
Co-Ax Television	Estevan, Sask.	2996	82.0
Community Antenna System	St. Paul, Alta.	148	49.3
Community Video	Montrose, B.C.	876	88.9
Cowichan Valley	Cowichan Valley, B.C.	1884	41.8
Cranbrook Television	Cranbrook, B.C.	2095	96.2
Creston Cable	Creston, B.C.	1255	50.2
E. R. Fouillard	St. Lazare, Man.	40	53.3
Greenwood Video	Greenwood, B.C.	398	80.0
Golden Television	Golden, B.C.	1090	83.8
Kootenay Enterprises	Kimberley, B.C.	1828	73.1
Lake Video	Lake Cowichan, B.C.	593	69.7
Langford Sooke	Langford Sooke, B.C.	1780	32.3
Merritt Cablevision	Merritt, B.C.	944	62.9
M.S.A. Cablevision	Abbotsford, B.C.	1467	36.6
Northwest Community	Nelson, B.C.	3815	85.0
Northwest Community	Castlegar, B.C.	2012	95.8
Rocky Mountain CATV	Hinton & Drinnan	330	26.4
Walter Green	Franklin River, B.C.	60	100.0

# QUEBEC

Alfred Picard	St-Thomas Didyme	83	83.0
Alfred Picard	Normandie	405	96.0
Alfred Picard	Girardville	96	60.0
Alphrise	Lac Carré	113	100.0
A. Piché	Ville-Marie	302	71.0



Beauce	Beauceville	675	56.3
Beauce Video	Ville St-George	792	22.0
Black Lake Telediffusion	Black Lake	856	90.1
Borden Community T.V.	Rock Island	204	29.3
Cablevision	Asbestos	1655	68.9
Chouinard TV	La Pocatière	495	72.7
Chouinard TV	St-Pacome	110	73.3
Coleraine Video	Coleraine	170	42.5
Côte St-Marie	Côte St-Marie	370	41.1
Dalbeau TV	Dalbeau	1210	49.0
D. Filion	Mt. Tremblant	152	50.6
Electro-Vision	La Tuque	3342	95.0
E. N. Roy	Sawyerville	175	66.0
F. Gagnon		1215	81.0
G. Brisson	Lac aux Sables	171	62.1
G. Du Laime	Nicolet	325	38.2
G. Godard	L'Annonciation	162	64.8
Gimble TV	Pierrefonds	250	31.2
Henri Latulippe	Lac Mégantic	993	58.5
I. Beaudoin	Baie Comeau	1807	65.7
I. Labelle	St-Come	29	19.3
J. Matteau	Grand'mère	2928	68.7
Lachute Cable	Lachute	494	24.7
La Compagnie de T.V.	Sept-Iles	1959	43.5
Lebreux	Grande Vallée	175	52.2
L. G. Paradis	St-Pascal	367	73.4
L. Laurier	Lac Roc	115	46.7
Maniwaki	Maniwaki	800	75.0
Marcel Beaudet	Warwick	350	58.3
Marcel Parent	St-Germain	46	93.8
Matagami TV	Matagami	336	72.7
Mercier Princeville	Mercier Princeville	283	33.0
Normand Mercier	Princeville	283	33.2
North Hatley Transvision	North Hatley	169	56.3
Pacquin & Martel	Notre Dame des		
	Anges	65	43.3
Paul Television	Val d'Or	1050	26.2
Réal St. Laurent	Robertsonville	65	26.0
R. St-Amand	St-Thècle	192	42.6
Telephone Dorchester	Lac Ethernin	390	33.9
Television Community de			
Brampton	Brampton	439	71.2
Thetford Video	Thetford	4394	74.7
Transvision	Danville	365	73.0
Transvision	Cowansville	323	21.5
Transvision	Victoriaville	84	75.0
Transvision	East Angus	822	82.2
Transvision	Disraeli	550	61.1
Transvision	Magog	2646	75.6
Transvision	Lennoxville	933	77.8
Transvision	Windsor	741	39.9



Transvision Coaticook	Coaticook	969	65.7
T.V. Cable	Richmond	800	75.0
Vallée Jonction	Vallée Jonction	315	90.0
Val Martin	Chomedey	678	100.0
Val Martin	Greenfield Park	202	100.0
Victor Rancourt	St-Benoît Lâbre	65	56.5
Victor Rancourt	St-Théophile	106	84.8
Victor Rancourt	St-Ludger	128	88.2
Video Dery	St-Raymond	967	94.3
Video Dery	Bagotville	609	45.1
Videotron	Buckingham	857	46.3
Videotron	Mont Laurier	1249	73.4





CATEGORY II

ONTARIO

Bramalea Cablecast	Bramalea	3767	31.4
Clearview Cable(2)	Simcoe	3035	21.8
* General Co-Axial	Hamilton	3806	22.4
Hamilton TV & Appliance	Hamilton	1830	
* Hossik Television	Toronto	610	1.6
Jarmain Cable System	Brantford	2837	42.7
Jarmain Cable System	Chatham	2737	29.4
Maclean-Hunter Cable	North Bay	4234	34.0
Maclean-Hunter Cable	Owen Sound	4729	59.3
Maclean-Hunter Cable	St. Catharines	3375	18.8
Niagara Co-Axial Ltd.	Niagara	4000	40.0
Oakville Cable	Oakville		
Richmond Hill Cable	Richmond Hill	3160	21.1
South Aberdeen	Hamilton	4937	61.7
Western Co-Axial	Hamilton	2920	

WESTERN PROVINCES

Alberni Cable	Port Alberni, B.C.	4830	69.0
Black Knight	Kelowna, B.C.	3362	39.5
Cablevision	Lethbridge, Red Deer,		
	Alta.	3164	31.6
Community TV	Prince Albert, Sask.	1075	14.3
Daniel Rae Sutherland	Sutherland, Alta.	3557	54.7

QUEBEC

Radio St-Hyacinthe	St-Hyacinthe	400	4.4
Sorel-O-Vision	Sorel	1330	8.9
TV Drummond	Drummondville	3031	37.8
Transvision	Granby	1014	13.5
Transvision	Valleyfield	335	3.5
Videotron	Gatineau	3729	53.2
* Video Cable	Fabreville	650	3.5

\* Has potential for Cat. V



CATEGORY III

- 1 -

ONTARIO

Allview Cable	St. Thomas	6,339	57.6
Barrie Cable TV	Barrie	5,186	69.1
Cablevue (Belleville) Ltd.	Belleville	11,371	61.7
Coaxial Colourview	Toronto	8,474	41.1
Cornwall Cable	Cornwall	8,490	62.9
Grand River Cable	Kitchener	38,083	57.0
Hamilton Co-Axial	Hamilton	15,042	37.6
Huron Cable TV	Sarnia	7,128	35.6
Lakehead Videon	Thunder Bay	19,678	76.1
London Cable TV	London	34,865	72.5
Maclean-Hunter Cable	Hamilton	6,315	50.5
Maclean-Hunter Cable TV	Toronto	12,280	14.2
Maclean-Hunter Cable TV	London	11,252	52.5
Maclean-Hunter Cable TV	Guelph	11,644	73.8
Metro Cable TV	Toronto	36,793	29.4
Oshawa Cable	Oshawa	7,121	28.5
Ottawa Cablevision	Ottawa	29,370	49.9
Peterborough Cable System	Peterborough	12,411	80.0
Rogers Cable	Toronto	12,684	20.0
Skyline Cable	Ottawa	24,876	48.0
Waterloo TV Cable	Waterloo	8,341	43.9
Western CATV	Woodstock	5,505	45.9
York Cablevision	Toronto	27,183	49.4

WESTERN PROVINCES

Community Video	Trail, B.C.	5,690	75.8
Community Video	Nanaimo, B.C.	5,086	50.8
Greater Winnipeg	Winnipeg, Man.	8,090	18.8
Metro Videon	Winnipeg, Man.	8,630	9.2
Northwest Community Video	North Vancouver, B.C.	15,395	87.9

QUEBEC

Cable TV	Montreal	36,775	22.9
La Belle Vision	Shawinigan	17,928	77.9
Laurentian Cable	Hull	8,485	42.4
National Cablevision	Montreal	80,000	20.0
Rediffusion	Sherbrooke	15,732	78.6
Télé câble de Québec	Quebec City	13,332	16.6









Some Aspects  
of  
Regulating Cable Television

CONFIDENTIAL



## Introduction

This paper is an attempt to expand the discussion of cable television policy. It sets out, in as simple a form as I can find, some of the problems of developing cable television policy, and it proposes some solutions.

It is at variance with some of the guidelines announced on April 10, 1970, but it could be integrated with most of them, and it seeks the same basic ends.

Assistance in its preparation came from Albert Shea and R.W. Nichols, as well as three students employed by the Commission for the summer: Margaret Borthwick, Robert Ellis and Roger James. It does not necessarily reflect their points of view.

Leslie Millin,  
August 5, 1970.



### To begin with

A Canadian policy for cable television must aim at enriching the television viewer's range of choice without eroding the free-air broadcasting upon which cable television is based.

Enrichment may be achieved through cable television in several ways. One is the provision of signals from television stations too distant to be received by rooftop antenna. Another is the provision of a channel dedicated for educational broadcasting. And the viewer's range of choice can be increased by the provision of channels for various specialized uses, of which perhaps the most obvious is community-oriented programming.

This provision of channels for specialized uses is one of the most exciting things about cable television, and merits very careful study.

But one must be careful not to lose sight of something that is absolutely fundamental to cable television: it exists because a certain segment of the population is willing to pay to receive more mass-appeal channels. Nor should we forget that, at least so far in Canada, the cable operator is in the unique position of being legally entitled to retail manufactured products for which he does not pay.

### Community Programs

Over the years, Canada has evolved a broadcasting system intended to serve local areas rather than vast regions. By limiting transmitter power, successive regulatory bodies have preserved the concept of the local broadcaster serving basically one city and its surrounding smaller communities.

Various influences have worn away this concept. Radio broadcasters have turned increasingly to recorded music, much of it recorded outside Canada, to fill up most of their program hours. Television broadcasters have come to draw large amounts of their programming from national networks (and much of the network programming has been non-Canadian), or have purchased syndicated programs which, whether foreign or Canadian, are not intended to reflect any specific community.

The rapid spread of cable television provides an excellent opportunity for the restoration of this concept of local broadcasting.

Cable television licenses cover smaller areas than those covered by free-air broadcasting licenses, so that the cable licensee is more likely to be dealing with one community, rather than several.





A cable licensee can set apart one or more channels for local origination. This allows him to serve a minority audience--those interested in community affairs--while at the same time his off-air channels provide service for those of his customers, almost certainly the majority, who want to watch mass-appeal channels.

Because the cable licensee can deliberately set out to serve a minority audience without diminishing his service to the majority, he is clearly ahead of the free-air broadcaster, whose single channel does not allow him to serve minority and majority audiences simultaneously.

There are, it seems to me, two kinds of community programs: the kind in which the producer describes the community, and the kind in which the community describes itself. It will always be easier for the cable licensee to do the first kind, but it will always be better programming if he does both kinds.

In doing the first kind of programming, the licensee is guessing at what would serve the community best, and is then trying to supply it. He naturally strives to emulate the programs produced by free-air broadcasters, even though his role is to supplement their fare, rather than reproduce it.

At least one consequence of this is that he may seek out program exchanges with other cable licensees. Once this begins, there is pressure to produce programs that are less directly involved in the licensee's community, and thus more readily exchangeable. And the idea of community programming begins to slip away.

Clearly, it is desirable that at least some time be devoted to giving the community a chance to describe itself.

The closest that free-air broadcasters have come to this is the often abused open-line program. Such a program is often abused simply because of the free-air broadcaster's urge to preserve for himself a mass audience. Consequently, there is pressure to add excitement to the program--artificial excitement that leads to hysteria, discourages rational participation, and drowns discussion in polemics.

Since the cable licensee need not seek massive audiences, he is at least freed from this sort of pressure. But there are others--and, paradoxically, the Commission is among them.

The holder of a broadcasting license is responsible for whatever passes through his broadcasting outlet. He cannot avoid that responsibility. He may be called to account for his discharge of that responsibility at a public hearing into the renewal of his license.

Since the license is central to his operation, he guards it. All too often, this takes the form of believing not that he may do anything that the regulations do not forbid, but that he should not risk doing anything that the regulations do not specifically instruct him to do.



Allowing a community to describe itself through a channel on his cable system is to risk sacrificing absolute control of programming. Caution enjoins the licensee to grant public access to his broadcast outlet only in the safest possible circumstances.

This, in turn, leads to his permitting only the most orthodox views to be expressed; which finally means that the only members of the community who are given a voice through the cable system are those who already have a voice through more traditional means, and who in any case represent opinions that are already widely held.

If genuine public access to the cable system is to be achieved, the cautious licensee must have reassurance--and reassurance that he can point to in a specific way in time of dispute. He has to have a regulation.

A regulation to ensure orderly public access can be devised fairly easily. The necessary elements are easily recognizable. Access would be for community residents on a first come, first served basis; each person would have the same amount of time; there would be a standard delay of perhaps 48 hours for the licensee to remove any statement clearly obscene or libellous or designed to encourage criminal activity.

Since the Commission is going to have to come up with some kind of a ruling on access to cable television by politicians, it would seem no great additional effort to ensure access to persons who wish to express their views on matters of community interest but who are not at that moment seeking political office.

Recently, the Broadcast Programs Branch studied the operation of six cable television licensees who originate programs. Of the six, four were broadcasting on their local origination channels material that the respective licensees had not produced themselves. In two cases, the amount of such non-local material was substantial--30% to 40%.

The message here is clear. "Community affairs channel" has already been translated to mean "local origination channel" by these licensees. The drive to maximize profit is going to lead to more and more program exchange, and the local service concept will suffer.

Prohibiting program exchange is not necessarily the answer, because often such exchange would be beneficial--particularly where several licensees are within one major population centre, such as Toronto or Montreal.

Rather, the answer is to ensure that communities will have access to the cable; because it is in this matter of public access that cable television has something unique to offer, and in designing policy for any broadcast medium, one cannot ignore that medium's unique qualities.





In any case, if the community affairs channel is to have much meaning, some direction will have to be given the licensee---either by regulation or by condition of license--as to the minimum effort in this regard that is expected of him.

Existing data indicate that the cost per hour to community affairs programming varies widely, depending on the ambition and thrift of the licensee. Of the six systems noted above, three had a cost per hour ranging between \$62 and \$71, and the highest of the six was \$205.

Given the wide differences in cable license areas, the varying degrees of penetration possible in different markets, and the differing needs of communities, it seems likely that each licensee should have his level of community affairs programming specified as a condition of license.

An hours per week/number of subscribers/annual revenue ratio could probably be devised as a general guide, and the report of the above mentioned Broadcast Programs Branch study will no doubt be very helpful in preparing such a ratio.

#### Protection of the Free-Air Broadcaster

Basically, there are two ways in which a cable television system can adversely affect a local television station: it can damage the economic base of the station, and it can overwhelm its programming appeal.

The economic concern has two aspects: fragmentation of the market, and the withdrawal of certain advertising altogether.

If a cable television system allows viewers to watch their choice of four signals (three distant, one local) where they could only watch one before, the proprietor of that one signal has only a quarter of the audience instead of all of it, and the value to advertisers of his commercial time drops accordingly.

Also, if an advertiser finds he need not buy time at all on the local station because his message is getting in there anyway because of the time he has bought on the three distant stations, he will probably withdraw his advertising completely from the local station.

As long as the distant signals involved are all Canadian, there is less damage done, because almost all Canadian television stations are affiliated with networks, and one of the functions of these networks is to ensure that financially weak stations get various kinds of assistance.

But where the distant signal comes from outside Canada, the local television station operator is not alone in losing the revenue; it is lost to the Canadian broadcasting system entirely. When one considers that the kind of advertising thus lost is the backbone of the system--the major international advertising of the General Motors and Coca-Cola variety--it is easily seen to be a major loss, probably fatal to the system.





There is also the matter of program appeal.

For better or worse, Canadian television stations are required to broadcast programs that, for at least half the time, are different from the programs broadcast on U.S. stations.

Accordingly, in an area where there are two local Canadian stations, a distant U.S. signal has more program appeal than a distant Canadian signal. The distant Canadian station is, for the most part, offering the same programming as one of the local stations; but the distant U.S. signal has more to offer that is different.

The Canadian broadcasting system, which has needed protection and subsidy virtually from birth, is founded upon the idea that within reason Canadians would rather have their own national programming than the programming of some other nation. The allures of distant U.S. signals, then, must be offset by attractive Canadian programming.

There are various ways of dealing with the economic aspect.

One is a limitation on the number of non-Canadian commercial signals that may be carried by a cable system. Another is the removal of advertising from such non-Canadian commercial signals. Related to this, and to the matter of program appeal, is the removal from a foreign signal of programming duplicated on a Canadian signal within a certain time period. Finally, the cable licensee may pay some measure of compensation to the television station whose operation his undertaking affects.

In regard to this last: the Federal Communications Commission in the United States has suggested that where cable operators import a distant signal, they pay an amount equal to 0.7 per cent of gross revenue as compensation for program rights.

While this may suit admirably the circumstances in the United States, it would have an odd effect in Canada. It would amount to compensating the party least in need of compensation.

The distant station is not hurt by cable television; its market is, if anything, somewhat enhanced. Nor is the copyright holder substantially affected. It is the local station that may suffer by the local cable operation.

Given the choice between fewer imported channels and a blackout of commercials on those imported channels, both Canadian viewers and cable licensees would probably prefer a blackout of commercials. But the solution may well involve both: a limit of two non-Canadian commercial channels with commercials blacked out would probably be acceptable both to cable licensees in areas like Toronto, and to licensees in areas rather more remote from the border.



If this could be combined with payments from the cable licensees to the local television station or stations, there would be a measure of relief both for the fragmentation of market and for the matter of program appeal.

Where a cable operator had to set aside a fixed percentage of his revenue to compensate for fragmenting the market, we would see these effects:

1. The non-proliferation of mass-appeal channels. A cable licensee would not, for example, duplicate affiliates of a network unless there were program differences sufficiently significant that they could be used as selling points to subscribers;
2. Concentration of compensation to the station needing it most--the station in a one-channel market facing four-way fragmentation (one or two new Canadian, two or three new U.S. if a U.S. non-commercial channel is available);
3. Lesser compensation in stronger Canadian markets, so that in metropolitan Toronto or Montreal, the compensation would be spread equally over several prosperous stations;
4. Sufficient equality of choice between cable systems along the border and cable systems in the hinterlands that the cry of "second-class citizenship" could not so readily be raised.

In the matter of proliferation of mass-appeal channels, we should bear in mind that there are cable systems in Toronto offering three CBC channels (CBLT, CKVR and CHEX) whose difference in programming, particularly in the peak evening viewing hours, is negligible.

We must also bear in mind that every channel devoted to duplicating a mass-appeal signal is a channel taken away from serving a minority audience--one of the things for which cable television is most admirably suited.

Compensation to free-air broadcasters within whose B contour a cable operation is licensed could be worked out by some formula acceptably to both licensees--perhaps based on a ratio of cable subscribers/total market.

It would go to some lengths to redress the odd situation that a cable operator is, at least so far, one of the few retailers in Canada who does not have to pay for his stock in trade.





## The use of channels

The conventional television set has a 12-channel selector. Although the technology for 20-channel cable systems, or systems with even more channels, is available, we must cope first with the basic 12-channel system.

Canada has three television networks: CBC English, CBC French, and CTV. Additionally, it has two major independent stations: CFTM and CHCH. In any given market, without the use of a remote head-end, the largest possible combination of these is four channels without duplication. For the most part it is two, and in some cases three.

Immediately adjacent to Canada there are three major U.S. commercial networks, certain minor commercial groupings, and a non-commercial network: NET. All of the Canadian and U.S. networks described are mass-appeal broadcasters, although the CBC and NET may argue that they produce many programs not specifically designed for mass appeal. But we must deal with the balance of programming, and on that basis they are mass-appeal broadcasters.

Where a cable licensee can readily find the signals, and there are no particular restrictions, his urge is to fill the 12-channel dial with mass-appeal signals, even when this involves considerable duplication.

In Toronto, for example, several cable systems carry three channels broadcasting CBC programming (CBLT, CKVR, and CHEK), and two channels of CTV programming (CFTO and CKCO). In Ottawa, there is duplication of two CBC English owned and operated stations (CBOT and CBLT), and two CTV stations (CJOH and CFCF); oddly enough, there is no duplication of CBC French network stations. Now, this duplication of signals is a sheer waste of spectrum.

The difference between the programming of CFTO and CKCO is small, and during the hours when viewing its at its peak, the difference is minute. The difference between the programming of CKVR and CHEK is remarkably small, except for late-night films and NHL games on alternate weeks, and it is very hard to know what marginal value can be attached to these signals in addition to CBLT.

Every channel which is used to duplicate a mass-appeal signal is a channel potentially denied to programming for minority audiences. We can see this clearly by looking at some of the Toronto cable systems, whose 12-channel dial has the following mass-appeal signals: NBC (2), CBC (3), CBS (4), CBC (6), ABC (7), NET (17, converted to 8), CFTO (9), CHCH (11), CHEK (12), CKCO (13). When one bears in mind that two of these signals (6 and 9) are conventionally moved to another channel to avoid ghosting problems, we see that no channels are left for other uses.





Toronto, admittedly, is somewhat exceptional because of its rich ambient; but the situation is not markedly different in Montreal or even in Ottawa.

Clearly, the proliferation of mass-appeal channels is not in the public interest. It is worthwhile to reflect that the area where this is most likely to happen is in those metropolitan areas with rich ambients; and it is precisely in these areas that a very great need is likely to arise for minority audience programming--for language minorities, for adult education as well as child education, for localism in the face of faceless metropolitanism.

A limit must be set on mass-appeal channels. The ratio 7/12 is attractive; it offers room for three Canadian network signals, plus a Canadian independent, plus two U.S. commercial and one U.S. non-commercial signal, and that--in sales terms for a cable licensee--is a package that can be marketed.

It also allows a decent break for educational channels and community program channels, and channels for programming aimed at minority audiences.

In designing priorities for carriage of off-air channels, the guiding principle should be significant range of choice.

#### Advertising on locally originated channels

Two arguments exist for the sale by cable licensees of commercial time on channels whose programming is originated by the licensee.

One is that this provides a service to the community that it would not otherwise enjoy. The other is that the revenue from the sale of such commercial time permits him to undertake better programming on the locally originated channels.

Without debating whether advertising really helps good things happen, we can agree that advertising is a service to the consumer, at least in essence: it makes him aware of goods and services he may need. Two things that advertising on cable might permit that existing advertising media do not permit are:

1. The use of television advertising by advertisers blocked from existing free-air broadcasting outlets, by a lack of availabilities, or exceptionally high prices, or both;



2. The delivery of advertising to very specific markets, as in the case of a Cadillac commercial delivered to an affluent part of a metropolis--something not difficult by cable technology standards.

The arguments against this are basically:

1. Where existing free-air broadcasting outlets are overpriced or unavailable, other media--newspapers, magazines, outdoor advertising--exist to absorb the need. There may be exceptions with remote, media-starved communities, and in these cases, where clear need is demonstrated, exceptions should be made;
2. The sale of advertising time on local origination channels would tend to lead to standardized programming (since the licensee has to be able to guarantee what sort of time he is selling) and an overemphasis on production values leading to a decline in spontaneous, community-oriented production.

No amount of Cadillac advertising is worth the loss of good community programming.

The argument about the need for advertising revenue to support programming on locally originated channels is spurious.

While it is true that the cable licensee's rates are fixed by the Commission, they are fixed in consultation with the licensee, and with his program origination obligations in mind. Where costs shift rapidly, the licensee can apply for a change; and where he can demonstrate need, no doubt the change in rate would be forthcoming.

But it is essential to bear in mind that the cable licensee already enjoys a rather more stable financial environment than the free-air broadcaster. He can predict his income rather more accurately, and he has a monopoly that is not affected, for example, by things like the fragmentation of market.

### The Educational Channel

The desirability of reserving for educational broadcasting at least one channel on a cable television system is obvious. At one stroke, it sweeps away many of the problems that have hampered educational television in Canada since its inception.



Provision has been made in the appropriate order-in-Council for a definition of educational broadcasting. Where a provincial government department of education, or a regional ETV authority acting as such a department's agent, is prepared to utilize the channel, the matter seems straightforward.

Where no such use is immediately forthcoming, the cable licensee should have his obligations towards the educational channel clearly spelled out. If it is enough simply that he has it in reserve for use upon demand by the appropriate authority, that should be made clear.

Related matters, such as the possible costs of operating the channel and the supply of connections to school buildings, should also be clarified. The cost of dropping a line into a school is sufficiently small that the operator should be able to bear it without hardship; but if the educational authority wants the licensee to play videotapes all day on the educational channel, there may well be a case for compensation.

These matters can be dealt with by regulation, but before regulations are written, consultation with the appropriate education officials with other Federal departments involved, and with the cable operators would seem desirable.





# CABLECASTING

Weekly averages for  
month of June 1970.

Name and starting date	(a) hours of local origination	(b) hours of non-local	(c) total hours per week (including repeats)	(d) estimated costs per hour for sec. (a)	(e) estimated costs per hour for sec. (c)
London T.V. Cable Services Ltd. (Sept. 1969)	18 hr.	6 hr. 22 min.	41 hr. 41 min.	\$ 69.00	\$ 30.00
Rogers Cable T.V. (Sept. 1969)	9 hr.	0	18 hr.	\$181.00	\$ 91.00
York Cablevision (May 1970)	17 hr. 26 min.	3 hr. 15 min.	22 hr. 10 min.	\$ 71.00	\$ 56.00
Terra Communications (Oct. 1969)	8 hr. 3 min.	15. min.	16 hr. 1 min.	\$101.00	\$ 51.00
Guelph Cable T.V. (Mar. 1970)	12 hr. 28 min.	3 hr. 14 min.	23 hr. 45 min.	\$ 62.00	\$ 32.00
Ottawa Cablevision (Feb. 1970)	4 hr. 35 min.	0	4 hr. 35 min.	\$205.00	\$205.00

## NOTE

Columns (a), (b), (c):

The above figures are for the month of June and are not necessarily representative of their activity for the year.

(d)

Costs are estimated by dividing the system's projected budget for the year by the total number of hours produced for the month of June multiplied by 12.

Although all the systems have indicated they will increase their hours of cablecasting in the Fall, the cablecasting being done should be considered experimental, and not necessarily reflecting their plans for the future.



CABLE COMPANY	NO. OF SUBSCRIBERS	MONTHLY RATE (1)	PENETRATION	ANNUAL REVENUE 1970	ESTIMATED NET ANNUAL PROFIT (before Income Taxe 1970 (2)
London T.V. Cable Services, Ltd.	39,000	\$5.00	83%	\$1,800,000.	\$414,000.
Rogers' Systems (Rogers Cable T.V. (Bramalea Telecable (Coaxial Colourview	42,000	\$4.50	30%-60% (3)	\$2,520,000.	\$579,600.
York Cablevision	30,000	\$4.50	60%	\$1,586,580.	\$364,913.
Terra Communications Ltd.	3,000 (4)	\$4.50	25%-70% (5)	\$ 102,300.	\$ 11,253.
Guelph Cable T.V.	13,000	\$4.50	77%	\$ 565,650.	\$130,100.
Ottawa Cablevision	38,800	\$5.00	60%	\$1,762,000.	\$405,270.

FOOTNOTES:

1. Single dwelling rate only; does not include bulk or extra outlet factor.
2. D.B.S. 1968 Report on C.A.T.V. The report showed a 23% profit for companies having an annual revenue greater than \$400,000, and on 11% profit for companies with an annual revenue greater than \$100,000. In this column, the same 1968 profit percentages are applied to the 1970 annual revenues to give an estimated annual profit. This estimated annual profit does not consider on the one hand, increased expense due to cablecasting; or on the other hand, slightly increased profits in a maturer company.
3. 6 areas.
4. At present, only 1,500 paying subscribers.
5. 2 areas.



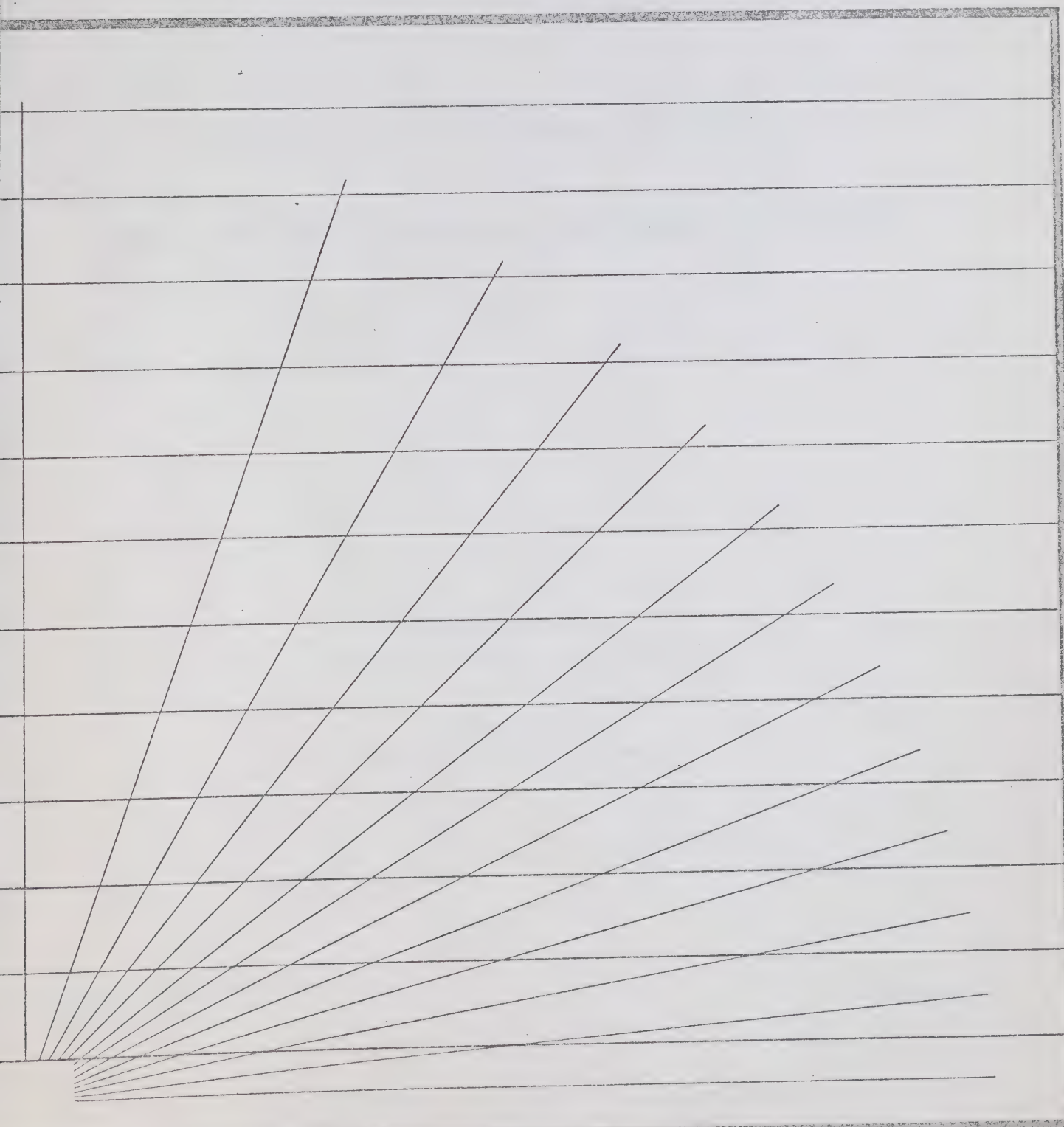






# Community Antenna Television

## Services de télévision à antenne collective





DOMINION BUREAU OF STATISTICS — BUREAU FÉDÉRAL DE LA STATISTIQUE

Transportation and Public Utilities Division — Division des transports et des services d'utilité publique  
Public Utilities Section — Section des services d'utilité publique

## COMMUNITY ANTENNA TELEVISION

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## SERVICES DE TÉLÉVISION À ANTENNE COLLECTIVE

1969

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traitant les  
**COMMUNICATIONS**

Catalogue number	Title	Numéro de catalogue	Titre
56-201	Telegraph and Cable Statistics — Annual. Operating revenue and expenses; income account; number of telegrams and cablegrams; value of money transfers; wire and pole line mileage; and employees, salaries and wages of the telegraph and cable industry by company.	56-201	Statistique des télégraphes et câbles — Annuel. Recettes et dépenses d'exploitation; compte de revenu; nombre de télégrammes et de câblegrammes; valeur des transferts d'argent; longueur de fil et de ligne sur poteaux; et employés, traitements et salaires par société de télégraphe et de câble.
56-202	Telephone Statistics — Preliminary Report on Large Telephone Systems — Annual. Numbers of telephones by type of service; selected employment and financial statistics; and number of telephone calls reported by large telephone systems by company.	56-202	Statistique des téléphones — Bulletin préliminaire sur les grands réseaux téléphoniques — Annuel. Nombre de postes par genre de service; certaines statistiques sur l'emploi et les finances; et nombre d'appels déclarés par les grands réseaux téléphoniques, par société.
56-203	Telephone Statistics — Annual. Number of telephone calls; number of telephones by type of service and by type of organization; wire and pole line mileage; employees, salaries and wages; assets, liabilities and net worth data; and revenue and expenditure of the telephone industry by province.	56-203	Statistique du téléphone — Annuel. Nombre d'appels téléphoniques; nombre de postes par genre de service et selon la forme d'organisation; longueur de fil et de ligne poteaux; employés, traitements et salaires; actif, passif et situation nette; et recettes et dépenses de l'industrie des téléphones, par province.
56-204	Radio and Television Broadcasting — Annual. Operating revenue and expenses by administrative department, by area and by revenue group; employee statistics by area; analysis of net profit; balance sheet data; detail of property, plant and equipment; detail of net worth; and salaries, wages and fringe benefits, and employee statistics by staff category of the radio and television broadcasting industry.	56-204	Radio et télévision — Annuel. Recettes et dépenses d'exploitation par service, par région et par catégorie de recettes; statistique de l'effectif par région; analyse des bénéfices nets; données du bilan; propriété, installations et équipement; avoir net; traitements, salaires et avantages sociaux, et statistique de l'effectif par catégorie d'employés de l'industrie de la radiodiffusion et de la télévision.
56-205	Community Antenna Television — Annual. Wireline facilities, subscribers and contracts by area; operating revenue and expenses by area and by revenue group; employee statistics by area; income and surplus accounts; and a statement of assets, liabilities and net worth of the community antenna television industry.	56-205	Services de télévision à antenne collective — Annuel. Installations de lignes, abonnés et contrats par région; recettes et dépenses d'exploitation par région et selon la catégorie de recettes; statistiques sur les employés par région; compte de revenu et de surplus; état de l'actif, du passif et de la situation nette de l'industrie des services de télévision à antenne collective.

*In addition to the selected publications listed above, the Dominion Bureau of Statistics publishes a wide range of statistical reports on Canadian economic and social affairs. A comprehensive catalogue of all current publications is available free on request from the Dominion Bureau of Statistics, Ottawa 3.*

*Outre les publications ci-dessus énumérées, le Bureau fédéral de la statistique publie une grande variété de rapports statistiques sur le Canada tant dans le domaine économique que social. On peut se procurer gratuitement un catalogue complet des publications courantes au Bureau fédéral de la statistique, Ottawa 3 (Canada).*





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### SYMBOLS

The following standard symbols are used in Dominion Bureau of Statistics publications:

- ... figures not available.
- ... figures not appropriate or not applicable.
- nil or zero.
- amount too small to be expressed.
- p preliminary figures.
- r revised figures.

### SIGNES CONVENTIONNELS

Les signes conventionnels suivants sont employés uniformément dans les publications du Bureau fédéral de la statistique.

- .. nombres indisponibles.
- ... n'ayant pas lieu de figurer.
- néant ou zéro.
- nombres infimes.
- p nombres provisoires.
- r nombres rectifiés.



## INTRODUCTION

This publication contains the results of an annual survey conducted by the Dominion Bureau of Statistics with respect to the Canadian community antenna television industry. It represents the third edition of this important and rapidly expanding segment of the communications field.

A community antenna television station or system, as defined by DBS, is a system for receiving signals from broadcasting stations and distributing them by cable to subscribers. The subscriber is thus able to increase the number of television channels and FM stations which he can receive, which averages from two to four channels and stations each from Canada and the United States. This is made possible by large, suitably located antennas which are able to pick up signals outside the normal area of reception. Amplifiers raise the strength of the signals which are in turn transmitted to subscribers. Normally there is an installation charge for this service as well as a monthly service charge. Community antenna television is also commonly referred to as cable TV.

The data presented herein were compiled from information reported in DBS questionnaires, which were provided to all CATV companies, each of which was requested to file a separate return for each CATV licence held. As in previous years, these questionnaires have served the statistical requirements of the Canadian Radio-Television Commission as well as DBS, thus avoiding duplication of effort and easing the reporting burden on the licensees. This publication is primarily intended to provide information to the community antenna television industry to assist the individual station operators to assess their performance in relation to other stations in similar areas and operating revenue groups. It should also prove useful to the radio and television broadcasting industry, electronic equipment suppliers, those involved in providing educational television services, as well as the general public.

New regulations were introduced by the CRTC during 1968 requiring the licensees of all stations to report a uniform fiscal period ending August 31 each year. As a result, all information contained in this report is presented for the fiscal period ended August 31, 1969.

The CATV industry comprised a total of 400 stations in operation during 1969 compared with 377 during 1968. Future expansion of facilities is expected to grow significantly as there are now nearly 1.7 million potential subscribers situated along existing wireline facilities.

The response to this survey was rather gratifying although some stations failed to report. To obtain industry-wide totals, estimates were used for these non-reporting stations. The estimated portion of total revenue amounted to only 4.6 per cent since the stations which did not report were quite small.

La présente publication renferme les résultats d'une enquête annuelle menée par le Bureau fédéral de la statistique sur les services de télévision à antenne collective. Il s'agit du troisième rapport sur ce secteur en pleine expansion du domaine des communications.

Le B.F.S. définit comme réseau ou station à antenne collective tout système qui capte des signaux d'émission pour les transmettre par fil à ses abonnés. Ces derniers ont ainsi accès à un plus grand nombre de postes de télévision ou de radiodiffusion à modulation de fréquence, et reçoivent en moyenne les émissions de deux à quatre stations supplémentaires de radio ou de télévision situées au Canada ou aux États-Unis. Ceci est possible grâce à de grandes antennes convenablement situées, qui permettent de capter des signaux au-delà de la zone de réception normale. Les signaux sont renforcés par des amplificateurs, puis retransmis aux abonnés. Généralement, ce service entraîne des frais d'installation et un abonnement mensuel. La télévision à antenne collective est souvent connue sous le nom de télévision par câble.

Les résultats présentés ici sont fondés sur le questionnaire du B.F.S. que chaque service de télévision à antenne collective (STAC) a été prié de remplir pour chaque licence détenue. Comme par le passé, ces questionnaires ont satisfait aux exigences statistiques du Conseil de la radio-télévision canadienne, ainsi qu'à celles du B.F.S., ce qui a permis d'éviter le double emploi et d'alléger la tâche de ceux qui doivent les remplir. L'objectif principal de la publication est de fournir des renseignements aux services de télévision à antenne collective dans le but d'aider les exploitants de stations à évaluer leur rendement par rapport à d'autres stations de la même région et de la même catégorie de recettes d'exploitation. Elle devrait également se révéler utile à l'industrie de la radio et de la télévision, aux fournisseurs de matériel électronique, aux personnes chargées de la télévision éducative, ainsi qu'au grand public.

Le CRTC a établi en 1968 de nouveaux règlements imposant à tous les titulaires de licences de stations de STAC un exercice financier uniforme se terminant le 31 août de chaque année. Par conséquent, tous les renseignements contenus dans le présent rapport s'appliquent à l'exercice financier prenant fin le 31 août 1969.

En 1969 les services de télévision à antenne collective exploitaient 400 stations, contre 377 en 1968. On prévoit une expansion considérable dans cette industrie, puisqu'il existe actuellement près de 1.7 millions d'abonnés éventuels sur le parcours des lignes existantes.

Une fois de plus, l'enquête a reçu un accueil plutôt encourageant, même si quelques stations se sont abstenues de répondre. Pour ces dernières, on a établi des estimations, afin de présenter des totaux pour toute l'industrie. La part de ces estimations n'est que de 4.6 p. 100 par rapport aux recettes totales, les stations qui se sont abstenues étant en effet assez petites.





## REVIEW OF SURVEY RESULTS

During 1969, there were 461 licensed community antenna television stations but of these, 61 were not operating. The 400 operating stations reported a total of 722,767 individual subscribers as well as 10,267 commercial and bulk contracts (with hotels, apartment buildings, etc., in which one contract covers a number of outlets) in 1969 compared with 555,275 and 8,280 respectively in 1968. The following table presents the above data for 1969 by province:

	Nfld. — T.-N.	P.E.I. — I. P.-E.	N.S. — N.-E.	N.B.	Qué.	Ont.	Man.	Sask.	Alta. — Alb.	B.C. — C.-B.	Total
Licensed stations — Stations détentrices d'une licence .....	1	—	1	10	179	165	4	4	14	83	461
Stations not operating — Stations inactives .....	—	—	—	1	20	27	1	1	4	7	61
Operating stations — Stations exploitées ....	1	—	1	9	159	138	3	3	10	76	400
Number of individual subscribers — Nombre d'abonnés particuliers .....	188	—	475	4,441	163,920	361,498	6,888	4,450	10,179	170,728	722,767
Number of commercial and bulk contracts — Nombre de contrats commerciaux et en gros .....	—	—	5	6	1,853	4,227	1	132	181	3,852	10,267

Ontario was the leading user of CATV services in 1969 with 361 thousand individual subscribers, followed by British Columbia with 171 thousand and Quebec with 164 thousand.

As there were provinces with fewer than three stations reporting, these were combined with other provinces in Tables 3 and 4 to ensure confidentiality of individual returns.

The CATV industry registered an increase in operating revenue for the year under review compared to the previous year's operations. Between 1968 and 1969, total operating revenue rose by 19.5 per cent from \$31.3 million to \$37.4 million. Of the total operating revenue, monthly service charges accounted for \$33.4 million or 89.3 per cent. Total operating expenses increased by \$4.9 million in 1969 from \$26.4 million to \$31.3 million, which was mainly attributable to an increase of \$2.2 million for salaries, wages and bonuses. However, total operating revenue exceeded these expenses, resulting in a net operating profit of \$6.1 million for 1969, an increase of \$1.2 million from the net operating profit earned in 1968.

Some stations report income and expenses which result from activities not related to CATV. DBS classifies investment income and rental income in the category "other income" shown in Table 6. "Other expenses" include such items as life insurance and donations. In 1969, other income net of other expenses totalled \$442,080. Provision

## REVUE DES RÉSULTATS DE L'ENQUÊTE

En 1969, il existait des licences pour 461 stations de télévision à antenne collective, dont 61 cependant, n'étaient pas en exploitation. Les 400 stations exploitées ont déclaré, au total, 722,767 abonnés particuliers et 10,267 contrats commerciaux ou collectifs (ce qui comprend les hôtels, les immeubles à appartements multiples, etc., ou plusieurs utilisateurs sont desservis aux termes d'un seul contrat) pour l'année 1969, contre 555,275 et 8,280 respectivement en 1968. Le tableau ci-après présente la répartition par province de ces données:

Pour l'utilisation des STAC c'est l'Ontario qui vient en tête, avec ses 361,000 abonnés particuliers; suivent la Colombie-Britannique, avec 171,000 et le Québec avec 164,000.

Du fait que pour certaines provinces, les réponses portaient sur moins de trois stations, il a fallu incorporer les chiffres les concernant à ceux d'autres provinces dans les Tableaux 3 et 4 afin de sauvegarder le caractère confidentiel des déclarations.

Les STAC ont augmenté leurs recettes d'exploitation l'année observée, par rapport aux résultats de l'année précédente. De 1968 à 1969, les recettes d'exploitation ont augmenté de 19.5 p. 100, passant de 31.3 millions de dollars à 37.4 millions. Le montant des abonnements mensuels a été de 33.2 millions de dollars, soit 89.3 p. 100 du total des recettes d'exploitation. Les dépenses d'exploitation se sont accrues de 4.9 millions, en 1969 passant de 26.4 millions de dollars à 31.3 millions principalement en raison de l'augmentation de 2.2 millions de dollars de la rémunération et des gratifications. Toutefois, les recettes d'exploitation ont dépassé ces dépenses, ce qui a permis de réaliser un bénéfice d'exploitation net de 6.1 millions, soit une augmentation de 1.2 millions par rapport à 1968.

Plusieurs stations déclarent des revenus et des dépenses qui n'ont pas trait aux STAC. Pour le B.F.S., les revenus de placements et de location entrent dans la catégorie des "autres revenus" au Tableau 6. Parmi les "autres dépenses", on compte les primes d'assurance-vie et les dons. Pour 1969, le montant net des autres revenus, après déduction



for income tax by the profitable companies amounted to \$3.4 million in 1969 compared with \$3.1 million in 1968. In 1969, the CATV industry achieved a profit after income tax of \$2.3 million representing a considerable gain over the profit earned in 1968.

All tables in this publication embrace the activities of the industry as a whole. Table 1 shows comparative data for the reporting years 1967, 1968 and 1969 for wireline facilities, subscribers and contracts. Wireline facilities in these tables refer only to cable facilities and do not include electronic equipment. Table 2 presents comparative details of operating revenue and expenses for the 1967, 1968 and 1969 reporting years.

Table 3 shows data for wireline facilities, subscribers and contracts by area of operation for the year under review.

Tables 4 and 5 provide details of operating revenue and expenses by area and by revenue group. All areas showed an operating profit in 1969 and, on a Canada wide basis, the industry showed an operating profit of \$6,101 thousand with British Columbia and Quebec accounting for 47.2 per cent and 30.8 per cent respectively, of the industry total. Details for the average monthly number of employees and salaries, wages and bonuses are shown by staff category in the table below:

des autres dépenses, atteignait \$442,080. Les provisions pour impôts sur le revenu, constituées par les sociétés réalisant un bénéfice, se sont élevées à 3.4 millions de dollars en 1969, contre 3.1 millions en 1968. En 1969, l'ensemble des STAC a réalisé des bénéfices nets après impôt totalisant 2.3 millions de dollars, ce qui représente un accroissement considérable par rapport aux bénéfices de 1968.

Tous les tableaux publiés ici se rapportent aux activités de la branche d'activité prise dans son ensemble. Le Tableau 1 constitue un état comparatif des données concernant les réseaux de transmission par fil, les abonnés et les contrats. Dans ces tableaux, les réseaux de transmission par fil ne comprennent que ce qui a trait au réseau de câbles proprement dit, et non le matériel électronique. Au Tableau 2, on trouvera le détail des comparaisons entre les recettes et les dépenses d'exploitation pour les années 1967, 1968 et 1969.

Au Tableau 3 figurent les données concernant les réseaux de transmission par fil, les abonnés et les contrats, par région d'exploitation pour l'année observée.

Les Tableaux 4 et 5 donnent des renseignements détaillés sur les recettes et les dépenses d'exploitation, par région et par catégorie de recettes. Toutes les régions ont fait ressortir un bénéfice d'exploitation pour 1969. Pour l'ensemble du Canada, le bénéfice d'exploitation réalisé dans cette branche d'activité s'est monté à \$6,101,000, dont 47.2 p. 100 en Colombie-Britannique et 30.8 au Québec. Le tableau ci-après indique le nombre moyen d'employés, la rémunération et les gratifications, par catégorie d'emplois:

	Average monthly number of employees — Nombre moyen d'employés par mois	Total salaries, wages and bonuses — Total, traitements, salaires et gratifications
		\$'000
Technical and maintenance — Personnel technique et d'entretien .....	810	4,046
Administrative — Administration .....	529	2,904
Sales and promotional (incl. commissions) — Ventes et promotion (y compris commissions) .....	262	2,169
Total .....	1,601	9,119

Staff benefits in these tables include such expenses as staff pensions and hospitalization insurance. Expenses such as amortization of leasehold improvements, insurance, fuel, water, car, truck and other property expenses, telephone and telegraph, and express, duty and cartage have been included in "Other operating expenses". Table 5 shows that stations with operating revenue under \$50,000 lost money, averaging \$1,314 per

Les avantages sociaux dont il est question dans ces tableaux comprennent des dépenses pour les caisses de pension et l'assurance-hospitalisation et d'autres charges du même ordre. Les dépenses ayant trait à l'amortissement des améliorations apportées aux biens pris en location, les frais d'assurance, les dépenses en carburants, eau, automobiles, camions et autres charges découlant de la possession de biens, les frais de téléphone et de télégraphe, les





station; but stations with operating revenue exceeding \$400,000 earned an average profit of \$122,989. This can be compared to 1968 results which showed an average loss of \$856 per station for the smallest group and an average profit of \$108,113 per station for those with operating revenue exceeding \$400,000.

Table 6 carries forward the operating profit from Tables 4 and 5. Also shown is the addition of other income from sources not related to community antenna television operations and the deduction of non-operating expenses. Net income, before income tax, amounted to \$5,659,412. After a provision of \$3.4 million for income tax, the industry reported a net income of \$2.3 million for 1969, a return of 2.2 per cent of total assets (\$102.4 million) and a return of 10.8 per cent on shareholders' equity and reserves. Additions and deductions to the surplus account are made up of items that do not affect the income of the business for the period under review (e.g., profit on sales of capital assets, adjustments for prior years re income tax, depreciation, connection costs, etc., write-off of goodwill, incorporation expenses, etc.).

Table 7 is a statement showing the assets, liabilities and net worth position of the CATV industry at August 31, 1969, which was compiled from the balance sheets of the community antenna television companies.

frais de messageries, les droits et les frais de transport, et les autres dépenses du même ordre sont compris à la rubrique "autres frais d'exploitation". Le Tableau 5 fait ressortir que les stations dont les recettes étaient inférieures à \$50,000 ont enregistré des déficits d'environ \$1,314 par station. Par contre, les stations ayant des recettes d'exploitation supérieures à \$400,000 ont réalisé un bénéfice moyen de \$122,989. Ces résultats sont à comparer aux chiffres pour 1968, où le déficit moyen des stations moins importantes s'établissait à \$856 alors que les stations dont les recettes d'exploitation dépassaient \$400,000 réalisaient chacune un bénéfice moyen de \$108,113.

Le Tableau 6 reprend les bénéfices d'exploitation figurant aux Tableaux 4 et 5. Il comprend en outre des revenus provenant de sources n'ayant pas de relation directe avec l'exploitation du service de télévision à antenne collective, ainsi que des déductions pour frais autres que les dépenses d'exploitation. Le bénéfice net, avant impôts sur le revenu, a atteint \$5,659,412. Après déduction de la provision de 3.4 millions de dollars pour impôts sur le revenu, l'industrie a déclaré un bénéfice net de 2.3 millions pour 1969, c'est-à-dire un rendement de 2.2 p. 100 par rapport à l'actif total (102.4 millions), et de 10.8 p. 100 par rapport à l'avoir des propriétaires et aux réserves. Les sommes inscrites au débit ou au crédit du compte des bénéfices à répartir sont de nature telles à ne pas affecter les revenus des sociétés pour la période observée (il s'agit, par exemple, de bénéfices sur la vente d'éléments d'actif, de régularisations ayant trait à des années écoulées aux fins des impôts sur le revenu, dépréciation, frais de raccordement, d'amortissement d'achalandage, de frais de constitution en sociétés).

Le Tableau 7 présente un état de l'actif, du passif et de la valeur nette de l'ensemble des sociétés de télévision à antenne collective au 31 août 1969, établi à partir de leurs bilans.





TABLE 1. Wireline Facilities, Subscribers and Contracts of the CATV Industry, 1967, 1968 and 1969

TABLEAU 1. Installations de lignes, abonnés et contrats de la STAC, 1967, 1968 et 1969

	1967 314 stations	1968 377 stations	1969 400 stations
Wireline facilities used by stations — Installations de lignes employées par les stations:			
Number of stations — Nombre de stations:	187	203	222
Owning all facilities — Possédant la totalité des installations .....	7	35	25
Leasing all facilities — Louant la totalité des installations .....			
Partly owning and partly leasing facilities — Possédant une partie des installations et en louant une partie .....	120	139	153
Individual subscribers — Abonnés particuliers:			
Number of subscribers — Nombre d'abonnés .....	408,853	555,275	722,767
Number of subscribers added during year — Nombre d'abonnés ajoutés durant l'année .....	85,166	146,422	167,492
Average installation charge — Moyenne de frais d'installation .....	\$ 23	17	18
Average monthly service charge — Moyenne de frais d'administration mensuels .....	\$ 5	5	5
Commercial and bulk contracts — Contrats commerciaux et en gros:			
Number of contracts — Nombre de contrats .....	6,768	8,280	10,267
Number of outlets — Nombre de sorties .....	107,631	154,801	201,044
Number of outlets added during year — Nombre de sorties ajoutées durant l'année .....	29,130	47,170	46,243
Number of potential subscribers along existing wireline facilities — Nombre d'abonnés virtuels le long des installations de lignes .....	1,225,410	1,606,552	1,699,749

TABLE 2. Operating Revenue and Expenses and Employee Statistics of the CATV Industry, 1967, 1968 and 1969

TABLEAU 2. Recettes et frais d'exploitation et statistique de l'emploi de la STAC, 1967, 1968 et 1969

	1967 314 stations	1968 377 stations	1969 400 stations
	dollars		
Operating revenue — Recettes d'exploitation:			
Installation charges — Frais d'installation .....	2,030,944	2,443,015	2,870,203
Monthly service charges — Frais d'administration mensuels .....	19,092,900	27,917,186	33,440,283
Other operating revenue — Autres recettes d'exploitation .....	990,846	925,312	1,069,423
Operating revenue — Total — Recettes d'exploitation .....	22,114,690	31,285,513	37,379,909
Operating expenses — Frais d'exploitation:			
Interest — Intérêt .....	1,529,552	1,715,728	2,427,795
Depreciation — Dépréciation .....	5,233,908	6,158,668	6,603,342
Rental of land, buildings and equipment — Loyer de terrains, immeubles et équipement .....	1,572,469	2,033,027	2,237,158
Repairs and maintenance — Réparations et entretien .....	1,742,248	2,232,497	2,266,949
Electricity — Électricité .....	328,663	375,859	400,488
Salaries, wages and bonuses — Traitements, salaires et bonis .....	5,202,641	6,940,514	9,118,650
Staff benefits — Prestations du personnel .....	164,964	214,998	350,452
Professional services, management fees and other outside services — Services professionnels, honoraires d'administration .....	1,216,666	1,186,714	2,040,325
Advertising, promotion and travel — Publicité, promotion et voyages .....	709,830	1,075,116	1,754,796
Taxes (excluding income tax) and licences — Impôts (sauf impôt sur le revenu) et taxes de licence .....	193,220	449,447	458,825
Office supplies and expenses — Fournitures et frais de bureau .....	578,996	1,083,955	1,241,727
Bad and doubtful accounts — Créances mauvaises et douteuses .....	277,503	294,092	227,774
Other operating expenses — Autres frais d'exploitation .....	1,712,367	2,572,550	2,100,136
Operating expenses — Total — Frais d'exploitation .....	20,463,027	26,434,165	31,278,417
Net operating revenue — Revenu net d'exploitation .....	1,651,663	4,851,348	6,101,492
Average monthly number of employees — Nombre moyen d'employés par mois .....	1,057	1,367	1,601



TABLE 3. Wireline Facilities, Subscribers and Contracts of the CATV Industry by Area, 1969  
TABLEAU 3. Installations de lignes, abonnés et contrats de la STAC par région, 1969

	Atlantic Provinces — Provinces Atlantiques 11 stations	Québec 159 stations	Ontario 138 stations	Manitoba and Saskatchewan 6 stations
Wireline facilities used by stations — Installations de lignes employées par les stations:				
Number of stations — Nombre de stations:				
Owing all facilities — Possédant la totalité des installations .....	7	89	48	4
Leasing all facilities — Louant la totalité des installations .....	—	18	7	—
Partly owning and partly leasing facilities — Possédant une partie des installations et en louant une partie .....	4	52	83	2
Individual subscribers — Abonnés particuliers:				
Number of subscribers — Nombre d'abonnés .....	5,104	163,920	361,498	11,338
Number of subscribers added during year — Nombre d'abonnés ajoutés durant l'année .....	799	16,058	117,290	6,306
Average installations charge — Moyenne de frais d'installation ..... \$	17	29	13	30
Average monthly service charge — Moyenne de frais d'administration mensuels ..... \$	5	5	4	5
Commercial and bulk contracts — Contrats commerciaux et en gros:				
Number of contracts — Nombre de contrats .....	11	1,863	4,227	133
Number of outlets — Nombre de sorties .....	275	19,486	83,743	3,605
Number of outlets added during year — Nombre de sorties ajoutées durant l'année .....	47	4,925	25,765	2,048
Number of potential subscribers along existing wireline facilities — Nombre d'abonnés virtuels le long des installations de lignes .....	11,675	371,666	961,131	13,450
	Alberta 10 stations	British Columbia — Colombie- Britannique 76 stations	Total 400 stations	
Wireline facilities used by stations — Installations de lignes employées par les stations:				
Number of stations — Nombre de stations:				
Owing all facilities — Possédant la totalité des installations .....	7	67	222	
Leasing all facilities — Louant la totalité des installations .....	—	—	25	
Partly owning and partly leasing facilities — Possédant une partie des installations et en louant une partie .....	3	9	153	
Individual subscribers — Abonnés particuliers:				
Number of subscribers — Nombre d'abonnés .....	10,179	170,728	722,767	
Number of subscribers added during year — Nombre d'abonnés ajoutés durant l'année .....	76	26,963	167,492	
Average installation charge — Moyenne de frais d'installation ..... \$	12	23	18	
Average monthly service charge — Moyenne de frais d'administration mensuels ..... \$	5	5	5	
Commercial and bulk contracts — Contrats commerciaux et en gros:				
Number of contracts — Nombre de contrats .....	181	3,852	10,267	
Number of outlets — Nombre de sorties .....	2,595	91,340	201,044	
Number of outlets added during year — Nombre de sorties ajoutées durant l'année .....	173	13,285	46,243	
Number of potential subscribers along existing wireline facilities — Nombre d'abonnés virtuels le long des installations de lignes .....	25,240	316,587	1,699,749	



TABLE 4. Operating Revenue and Expenses and Employee Statistics of the CATV Industry by Area, 1969

TABLEAU 4. Recettes et frais d'exploitation et statistique de l'emploi de la STAC par région, 1969

	Atlantic Provinces — Provinces Atlantiques  11 stations	Québec  159 stations	Ontario  138 stations	Manitoba and — et Saskatchewan  6 stations
dollars				
Operating revenue — Recettes d'exploitation:				
Installation charges — Frais d'installation .....	31,592	670,062	1,011,489	92,292
Monthly service charges — Frais d'administration mensuels .....	242,970	7,096,008	15,853,176	536,866
Other operating revenue — Autres recettes d'exploitation .....	23,193	350,628	499,196	42,413
Operating revenue — Total — Recettes d'exploitation .....	297,755	8,116,698	17,363,861	671,571
Operating expenses — Frais d'exploitation:				
Interest — Intérêt .....	5,229	496,468	1,467,431	16,247
Depreciation — Dépréciation .....	52,210	1,154,953	3,190,054	95,398
Rental of land, buildings and equipment — Loyer de terrains, immeubles et équipement .....	31,970	458,590	1,197,343	29,269
Repairs and maintenance — Réparations et entretien .....	11,576	514,424	890,736	55,309
Electricity — Électricité .....	4,258	68,804	201,730	10,023
Salaries, wages and bonuses — Traitements, salaires et bonis .....	51,519	2,210,351	4,663,386	250,584
Staff benefits — Prestations du personnel .....	2,164	46,104	234,083	2,597
Professional services, management fees and other outside services — Services professionnels, honoraires d'administration .....	42,635	204,101	1,146,897	40,352
Advertising, promotion and travel — Publicité, promotion et voyages .....	6,918	198,687	1,293,993	30,678
Taxes (excluding income tax) and licences — Impôts (sauf impôt sur le revenu) et taxes de licence .....	2,827	99,193	98,194	4,013
Offices supplies and expenses — Fournitures et frais de bureau .....	8,027	191,721	729,125	8,908
Bad and doubtful accounts — Créances mauvaises et douteuses .....	4,059	59,203	107,478	1,376
Other operating expenses — Autres frais d'exploitation .....	19,140	532,479	1,003,914	52,243
Operating expenses — Total — Frais d'exploitation .....	242,532	6,235,078	16,224,364	596,997
Net operating revenue (or expenses) — Revenu net d'exploitation (ou dépense) .....	55,223	1,881,620	1,139,497	74,574
Average monthly number of employees — Nombre moyen d'employés par mois .....	16	367	870	48
	Alberta	British Columbia — Colombie- Britannique*	Total	
	10 stations	76 stations	400 stations	
dollars				
Operating revenue — Recettes d'exploitation:				
Installation charges — Frais d'installation .....	35,872	1,028,896	2,870,203	
Monthly service charges — Frais d'administration mensuels .....	588,830	9,122,433	33,440,283	
Other operating revenue — Autres recettes d'exploitation .....	1,793	152,200	1,069,423	
Operating revenue — Total — Recettes d'exploitation .....	626,495	10,303,529	37,379,909	
Operating expenses — Frais d'exploitation:				
Interest — Intérêt .....	38,044	404,376	2,427,795	
Depreciation — Dépréciation .....	143,632	1,967,095	6,603,342	
Rental of land, buildings and equipment — Loyer de terrains, immeubles et équipement .....	57,604	512,382	2,287,158	
Repairs and maintenance — Réparations et entretien .....	36,032	758,872	2,266,949	
Electricity — Électricité .....	5,336	110,337	400,483	
Salaries, wages and bonuses — Traitements, salaires et bonis .....	146,014	1,796,796	9,118,650	
Staff benefits — Prestations du personnel .....	5,495	60,009	350,452	
Professional services, management fees and other outside services — Services professionnels, honoraires d'administration .....	51,465	554,875	2,040,325	
Advertising, promotion and travel — Publicité, promotion et voyages .....	26,373	198,147	1,754,796	
Taxes (excluding income tax) and licences — Impôts (sauf impôt sur le revenu) et taxes de licence .....	5,111	249,487	458,825	
Offices supplies and expenses — Fournitures et frais de bureau .....	13,960	289,986	1,241,727	
Bad and doubtful accounts — Créances mauvaises et douteuses .....	3,215	52,443	227,774	
Other operating expenses — Autres frais d'exploitation .....	20,856	471,504	2,100,136	
Operating expenses — Total — Frais d'exploitation .....	553,137	7,426,309	31,278,417	
Net operating revenue (or expense) — Revenu net d'exploitation (ou dépense) .....	73,358	2,877,220	6,101,492	
Average monthly number of employees — Nombre moyen d'employés par mois .....	29	271	1,601	





TABLE 5. Operating Revenue and Expenses of the CATV Industry by Revenue Group, 1969  
TABLEAU 5. Recettes et frais d'exploitation de la STAC, selon la catégorie de recettes, 1969

	Under \$50,000 — Moins de \$50,000 225 stations	\$50,000 - 99,999 56 stations	\$100,000 - 199,999 40 stations	\$200,000 - 399,999 34 stations	\$400,000 and over — et plus 45 stations	Total 400 stations
	dollars					
Operating revenue — Recettes d'exploitation:						
Installation charges — Frais d'installation .....	371,076	278,952	311,102	748,801	1,160,272	2,870,203
Monthly service charges — Frais d'administration mensuels.....	2,079,440	2,833,354	4,044,117	5,972,220	18,511,152	33,440,283
Other operating revenue — Autres recettes d'exploitation .....	181,019	157,283	387,942	91,511	251,668	1,069,423
Operating revenue — Total — Recettes d'exploitation .....	2,631,535	3,269,589	4,743,161	6,812,532	19,923,092	37,379,909
Operating expenses — Frais d'exploitation:						
Interest — Intérêt .....	232,923	226,746	361,572	670,861	935,693	2,427,795
Depreciation — Dépréciation .....	450,288	576,245	846,274	1,251,373	3,479,162	6,603,342
Rental of land, buildings and equipment — Loyer de terrains, immeubles et équipement .....	174,698	283,968	397,421	427,851	1,003,220	2,287,158
Repairs and maintenance — Réparations et entretien.....	383,580	190,062	263,146	439,159	991,002	2,266,949
Electricity — Électricité .....	55,156	43,951	114,320	56,177	130,884	400,488
Salaries, wages and bonuses — Traitements, salaires et bonis	820,351	799,534	1,264,104	2,272,887	3,961,774	9,116,650
Staff benefits — Prestations du personnel .....	13,808	23,845	42,454	101,831	168,514	350,452
Professional services, management fees and other outside serv- ices — Services professionnels, honoraires d'administration	179,169	258,557	307,602	226,659	1,068,338	2,040,325
Advertising, promotion and travel — Publicité, promotion et voyages .....	156,194	88,083	156,569	322,698	1,031,252	1,754,796
Taxes (excluding income tax) and licences — Impôts (sauf impôt sur le revenu) et taxes de licence .....	42,907	32,284	57,561	65,191	260,882	458,825
Office supplies and expenses — Fournitures et frais de bureau	63,908	84,526	164,432	302,336	626,525	1,241,727
Bad and doubtful accounts — Créances mauvaises et douteuses	17,212	14,220	18,398	27,299	150,645	227,774
Other operating expenses — Autres frais d'exploitation .....	337,015	402,746	493,281	286,384	580,710	2,100,136
Operating expenses — Total — Frais d'exploitation .....	2,927,209	3,024,767	4,487,134	6,450,706	14,388,601	31,278,417
Net operating revenue or (expenses) — Revenu net d'exploitation ou (dépense) .....	(295,674)	244,822	256,027	361,826	5,534,491	6,101,492

TABLE 6. Income Account and Surplus Account of the CATV Industry, 1969  
TABLEAU 6. Compte de revenu et de surplus de la STAC, 1969

	Dollars
Income account — Compte de revenu:	
Net operating revenue — Revenu net d'exploitation .....	6,101,492
Other income — Autre revenu .....	473,314
Net operating revenue and other income — Total — Revenu net d'exploitation et autre revenu.....	6,574,806
Less — Moins:	915,394
Other expenses — Autres frais .....	5,659,412
Net income before income tax — Revenu net avant l'impôt .....	
Less — Moins:	3,381,513
Provision for income tax — Provision pour l'impôt sur le revenu .....	2,277,899
Net income for period — Revenu net de la période .....	
Surplus account — Compte de surplus:	
Surplus at end of previous period — Surplus à la fin de la période précédente.....	4,357,396
Net income for period — Revenu net de la période .....	2,277,899
Additions to surplus — Additions au surplus .....	1,812,314
Deductions from surplus — Déductions du surplus .....	1,251,260
Dividends — Dividendes .....	919,985
Surplus at end of period — Surplus à la fin de la période .....	6,276,394



TABLE 7. Assets, Liabilities and Net Worth of the CATV Industry, 1969

TABLEAU 7. Actif, passif et avoir net de l'industrie de la STAC, 1969

TABLEAU 7. Actif, passif et avoir net de l'industrie		Dollars
Assets — Actif		
Current assets — Disponibilités:		
Cash on hand and in bank — Numéraire en caisse et en banque .....		2,238,048
Accounts and notes receivable and accrued — Comptes et billets à recevoir et écourus .....		3,023,196
Other, including inventories, prepayments, etc. — Autres, y compris stocks et paiements faits d'avance, etc. ....		4,223,900
Investments (stocks, bonds, mortgages, etc.) — Placements (actions, obligations, hypothèques, etc.) .....		12,206,004
Current assets — Total — Disponibilités .....		21,691,148
Fixed assets — Actif fixe:		
Land and buildings — Terrains et immeubles .....	2,729,731	
Equipment — Matériel .....	19,377,630	
Cable — Câble .....	66,166,492	
Other, including tools, vehicles, etc. — Autre, y compris outils, véhicules divers, etc. ....	12,395,121	
Sub-total — Total partiel .....	100,668,974	
Less — Moins:	29,009,935	71,659,039
Depreciation reserve — Provision pour dépréciation .....		
Other assets, including goodwill and deferred charges — Autre actif, y compris achalandage et frais différés .....		9,030,678
Assets — Total — Actif .....		102,380,865
Liabilities and net worth — Passif et avoir net		
Current liabilities — Exigibilités:		
Bank loans — Prêts bancaires .....		7,222,002
Accounts and notes payable — Comptes et billets à payer .....		6,550,696
Other — Autres .....		8,776,961
Current liabilities — Total — Exigibilités .....		22,549,659
Long-term debt — Dette à longue échéance .....		48,237,445
Other liabilities — Autres exigibilités .....		10,163,551
Preferred stock — Actions privilégiées .....		8,614,761
Common stock — Actions ordinaires .....		6,539,055
Earned surplus — Surplus d'exploitation .....		6,276,394
Liabilities and net worth — Total — Passif et avoir net .....		102,380,865









CANADIAN CABLE TELEVISION ASSOCIATION

BRIEF TO

CANADIAN RADIO - TELEVISION COMMISSION





# Canadian Cable Television Association

1010 ST. CATHERINE STREET WEST, SUITE 1004, MONTREAL 110, CANADA — TELEPHONE: (514) 861-0568

August 7, 1970

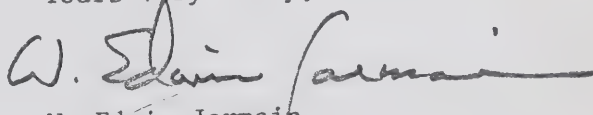
Mr. Pierre Juneau  
Chairman  
Canadian Radio-Television Commission  
Ottawa, Ontario

Dear Mr. Juneau:

The Commission has invited briefs commenting on its proposed guidelines for cable television. In the attached submission the Canadian Cable Television Association is pleased to submit its comments on the proposals that the Commission has outlined.

We will be most pleased to discuss the contents of the brief with you at your convenience.

Yours very truly,

  
W. Edwin Jarman  
Chairman



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INTRODUCTION

COMMENTS ON THE PROPOSED GUIDELINES FOR CABLE TELEVISION

At the outset, the Association wishes to emphasize that it fully supports the basic principle of the Guidelines that cable television should not develop in a manner which will jeopardize the maintenance of essential broadcasting services in Canada. The Broadcasting Act recognizes cable television as an integral part of the broadcasting system. In turn the cable television industry recognizes the interdependence of the elements making up this system and fully accepts its responsibilities as a co-operative and responsible partner.

Technological development will inevitably increase cable television's contribution to essential broadcasting services in Canada. The industry is prepared to accept whatever may be necessary to ensure that its growth does not cause the disappearance of such services. In turn, the cable industry has a right to expect that broadcasting regulations will reflect an awareness of the relative contributions of each element and will not overprotect one element at the expense of another.

The Association appreciates that the Commission's Guidelines were designed as a constructive step in the process of developing practical and effective regulations.

It will not be surprising that we disagree strongly with some of the proposals. However, in most instances this disagreement is not with the Commission's objectives, but with the implied application, the extent of regulation suggested by the wording, or the effective timing



which may be inferred from the text.

We appreciate the Commission's difficulty in framing general statements on these complex matters and expect that the detail underlying the Guidelines will show a substantial agreement between the Commission's and the industry's views on what will prove both worthwhile and workable.

The objectives of this brief are very simple:

- To provide the Commission with a clear statement of the industry's position with regard to the points raised in the Guidelines.
- To detail the reasons for the industry's position and to provide the Commission with supporting data.
- To offer constructive suggestions, alternative methods, etc., wherever possible.

For simplicity we have organized this brief under a number of basic headings:

1. The Potential Contribution of Cable Television
2. Application of Regulations
3. Channel Priorities
4. Blackout of U.S. Programming
5. Summary of Recommendations



## SECTION 1

### THE POTENTIAL CONTRIBUTION OF CABLE TELEVISION

The basic characteristics of cable television give it extraordinary potential to provide the widest possible choice of broadcast programming and, at the same time, provide a medium for community expression. No part of the Canadian broadcasting system has greater potential to satisfy the needs and desires of the public it serves.

The traditional role of cable television has been to satisfy the desire of the public for a wider choice of programming, while at the same time providing better reception and eliminating the need for outdoor antennas. This is still the primary role of the industry - one which the Broadcasting Act ranks equal in importance with the role of Canadian broadcasters.

The Association agrees fully with the Commission's view that cable television can play an important part in community life. Many cable systems are already providing a substantial amount of local programming and rapid growth of these services is anticipated.

Community programming services will grow either as a result of the direct programming initiatives of cable operators or as a result of their providing cablecasting facilities to local organizations. Subjects could include local news, municipal meetings, public forums, local sports events, programs of interest to minority groups, educational lectures, etc. The community will be provided with a means of communicating with itself. While the ability to contribute will obviously vary with the size of the cable systems, the Association is proud that many of its members are





fully committed to the development of these services and are already engaged in providing them.

Cable television is particularly well suited to community programming services:

1. Its multiple channels permit a wide diversity of programming. This will be increased in the future as present technological developments now permit installation of systems offering more than double the presently available number of channel selections.
2. The precise coverage of cable provides an efficient means of reaching specific audiences for special purposes. In this regard cable services can be much more economic and efficient than conventional broadcasting.

In addition to community programming services cable television offers a wide variety of broadcast service opportunities not available through conventional broadcasting; the following are typical examples of what could be done:

1. Past experience has shown that viewers increasingly demand a wider and wider selection of programming. It is likely in the future that this demand will only be met economically by importation of out-of-town signals through cable networks as it will only be practical for the local broadcast outlets to satisfy part of the demand. The additional competition for viewers will be offset by the extension of the local broadcasters signal to out-of-town markets by cable.
2. Cable's multiple channels facilitate rerunning programs of special interest or importance.



3. Cable could directly assist Information Canada by providing channel time for items of local or general interest.
4. The CBC could obtain greater coverage if those portions of the CBC network feed not used by the local CBC affiliate were made available to cable television for programming where convenient.
5. Programming of unusual interest in distant cities could be imported for reprogramming over local cable. The availability of such exposure could well encourage more ambitious Canadian programming.
6. Cable coverage of local events could be made available to local broadcasters for editing or reprogramming on news or public interest programs.

While the present capabilities and contributions of cable television are very substantial, the future potential of cable is almost unlimited. In addition to the certainty that cable will offer a much wider range of television channels, new types of services will very likely be added and enormous volumes of information will be handled by these facilities. The cable network will likely become an electronic highway for transmission of visual and facsimile materials. We may ultimately see the development of library services, newspaper service, and possibly even mail services using cable facilities. Shopping will be possible by cable as will selling and other commercial activities.

In the Association's view undue emphasis is placed by broadcasters and the Commission upon the supposedly harmful effects of cable television on local broadcasting and too little attention is paid to the benefits cable offers the community. The "fragmentation" of the market which develops when viewers are offered additional viewing choices



is too often deplored as a weakening of broadcasting instead of being viewed as a beneficial increase in service. Fragmentation of viewers will come just as effectively from viewers watching public service channels as from watching U.S. commercial stations. The increase in homes with more than one television set also contributes to wider distribution of viewers among the stations.

In emphasizing the contribution which cable makes we do not wish to suggest that cable services cannot present problems for conventional broadcasting - we are fully aware that adverse results could occur in certain cases and are prepared to assist in alleviating them. Our point here is that any examination of the problem must give full consideration to the present and future benefits offered to community services by cable television. Regulations must not be framed which unreasonably harm cable services in order to provide some questionable protection to other services with a net loss of total broadcast service to the public.

The Commission's statement of December 3, 1969, included the following statistics showing the change in the percentage of Canadian viewers watching U.S. stations from 1960-1968 in a number of major centres:





Percentage of Canadian T.V. Audience Viewing U.S. Stations

	<u>1960</u> %	<u>1961</u> %	<u>1965</u> %	<u>1966</u> %	<u>1967</u> %	<u>1968</u> %
Montreal	9.5	5.7	7.1	8.0	6.1	5.7
Kingston	71.6	69.1	68.9	62.3	67.4	60.4
Toronto	69.4	55.8	47.8	45.7	43.7	44.1
Windsor	73.3	72.2	73.2	72.0	78.2	78.5
Winnipeg	-	1.8	19.8	14.1	15.7	20.4
Vancouver	64.5	48.7	45.6	43.7	50.0	49.0
Six Metro Total	38.9	30.6	29.2	28.4	28.1	27.9

While these changes have come for a variety of reasons, it is clear that in all but Windsor (which does not have a cable system) and Winnipeg, Canadian stations have increased their total share. Since this has happened during a period of major growth in Canadian cable television, it appears clear that cable television has not reduced the Canadian broadcasters share of the Canadian television market.



## SECTION 2

### APPLICATION OF REGULATIONS

The Commission has stated that there is a need to apply a consistent CATV policy across the country. We agree that fairness and impartiality necessitate consistent treatment of like situations, but we also feel that significant differences of condition and situation require differences of policy.

The Association feels strongly that each of the following factors must be given adequate weight in determining how regulations will be applied:

1. Whether the market concerned has enjoyed the service for some time.
2. The size (number of subscribers or potential subscribers) of a system.
3. The stage of development (financial maturity, market acceptance, etc.) of a system.
4. The availability of U.S. stations with a local head end.

We have outlined below the main points we feel must be considered by the Commission together with our recommendations.

#### Effective Date of New Regulations

Cable systems and operations require substantial investment in both fixed assets and working capital. These investments can be seriously affected by regulations which necessitate changes or additions in equipment or operating methods. An arbitrary requirement for immediate changes in the operations of a cable system can seriously impair the



financial stability of the cable operator and endanger the continuity of the service.

Regulations which would reduce the attractiveness of the service could have the same effect - for example, a directive which would require a system to cease carrying a popular station would probably result in a wave of subscriber cancellations and a decline in sales to new subscribers.

While we do not wish to suggest that the Commission has made a practice of being unreasonable in this regard, we recommend that it should now establish clear policies with regard to the effective coverage and date of any regulations along the following lines:

- (i) Wherever possible, the regulations should be applicable only to new systems.
- (ii) Where it is necessary to apply such new regulations to all cable systems, the effective date of the regulation should be delayed a sufficient time from the date of its formal announcement to allow the cable operators to take effective compensatory action, to develop the financial resources necessary to handle the increased capital demands, and to use the normal growth of the system to offset any anticipated subscriber losses.

#### Size of Cable Systems

The size (or number of subscribers) of a cable system will significantly affect the system's ability to alter its facilities or operations. While a small system can be thoroughly sound financially,





TABLE 1

CANADIAN CABLE TELEVISION ASSOCIATION  
ANALYSIS OF MEMBERSHIP - DECEMBER, 1969\*

DISTRIBUTION OF SUBSCRIBERS AND SYSTEMS

NO. OF SUBSCRIBERS	WESTERN PROVINCES			ONTARIO			QUEBEC AND MARITIMES			CANADA	
	NO. OF SYSTEMS	TOTAL SUBSCRIBERS (000)	% OF SYSTEMS	NO. OF SYSTEMS	TOTAL SUBSCRIBERS (000)	% OF SYSTEMS	NO. OF SYSTEMS	TOTAL SUBSCRIBERS (000)	% OF SYSTEMS	NO. OF SYSTEMS	TOTAL SUBSCRIBERS (000)
less than 1000	20	7		27	12		45	20		92	49
1000 - 5000	22	60		25	62		14	33		61	155
5000 - 15000	9	70		16	146		8	74		33	290
15000 - 25000	0	0		2	44		0	0		2	44
25000 - 50000	1	39		5	166		1	40		7	245
above 50000	1	107		0	0		1	80		2	187
TOTAL	53	283		75	430		69	247		197	970
% of all Canada Total	27%	29%		38%	45%		35%	26%		100%	100%

PERCENTAGE DISTRIBUTION OF SUBSCRIBERS AND SYSTEMS

NO. OF SUBSCRIBERS	WESTERN PROVINCES			ONTARIO			QUEBEC AND MARITIMES			CANADA	
	% OF SYSTEMS	% OF SUBSCRIBERS	% OF	% OF SYSTEMS	% OF SUBSCRIBERS	% OF	% OF SYSTEMS	% OF SUBSCRIBERS	% OF	% OF SYSTEMS	% OF SUBSCRIBERS
less than 1000	38	2		36	3		65	8		47	5
1000 - 5000	42	21		34	14		21	13		31	16
5000 - 15000	16	25		21	34		12	31		16	30
15000 - 25000	-	-		3	10		-	-		1	5
25000 - 50000	2	14		6	39		1	32		4	25
above 50000	2	38		-	-		1	16		1	19
TOTAL	100%	100%		100%	100%		100%	100%		100%	100%

\* Subscriber figures as supplied to Association by members, December, 1969.



it will simply not have the flexibility to become deeply involved in complex services; its primary concern must be to maintain a high quality of basic transmission services.

The range of size of Canadian cable systems is so great that it is not possible to regulate the industry equitably without giving due consideration to this factor. Table 1 opposite provides the most recent data on subscriber totals of Association members and illustrates the extremes of size in the industry. As the Association includes all major and medium sized systems and a large proportion of the small systems, we feel this gives a satisfactorily accurate picture of the whole Canadian cable industry.

This table shows that only 21% of the cable subscribers in Canada are in cable systems having less than 5,000 subscribers apiece. It also shows that these same small cable systems represent 88% of the number of systems. At the other end of the scale, 6% of the number of systems service almost half of all Canadian subscribers. It is clear that the largest systems must represent significantly different circumstances than the small systems.

The small systems do not represent a significant part of the Canadian television market. The 204,000 subscribers in systems having less than 5,000 subscribers apiece, represent less than 4% of the total of approximately 5,450,000 "television households" in Canada as estimated by the Bureau of Broadcast Measurement.

For the most part these small operators are located in areas which have the least potential for subscriber growth. Because of



this, these systems are unlikely to become significantly more important in the future as a segment of the market; the major growth of cable subscribers will come in larger systems located in the major urban markets.

Since all of the systems with under 5,000 subscribers account for a total of only 200,000 subscribers and since these subscribers are widely scattered across the whole of Canada (note that they are more or less evenly divided among the three geographic regions), their use of cable service cannot be considered to represent an impediment to extension of conventional television broadcasting or, generally speaking, a threat to the revenues of existing broadcasters.

The Association feels it is reasonable to believe that these small systems are providing worthwhile broadcast services unavailable by other means. Since these systems cannot be considered to pose any general threat to existing broadcast services or to the possible future extension of broadcast services, imposition on them of regulations designed to protect broadcasting would not further the public interest and would probably affect their ability to maintain current services.

Similarly, blanket application of regulations designed to impose a specific pattern of station coverage would also prove unduly burdensome.

In view of these points the Association most strongly recommends that systems having less than 5,000 subscribers in their license areas should be considered as a special class for purposes of licensing and regulation. In particular the Association recommends that this class of cable system be exempted from any general regulations





which establish minimum station coverage or programming requirements. In addition, the Association recommends that this class of cable system be exempted from any regulations restricting programming in order to protect other Canadian broadcast services.

#### Stage of System Development

The stage of development of a cable system has a major bearing on the system's ability to widen or increase its services. Essentially this development consists of two steps: the time required to cable the licensed area; and the time required to develop market acceptance and build up subscriber volume. As most licensed areas are cabled in phases these two steps frequently overlap.

Because of this build-up period, it is essential that the Commission's licensing and regulatory practices give due consideration to the relatively long term nature of the investment. In particular the term of the operating licenses and any time requirements for full provision of special services should reflect these factors.

#### Off-Air Reception of U.S. Stations

Where a U.S. station can be received by non-cable viewers in an area, the provision of that station on cable can in no way be considered to be "artificial" competition for Canadian broadcasters.

Restrictions on the transmission of such signals on cable systems in the area - whether in the form of blackout of programming or the "bumping" of the station to permit the carrying of a duplicate Canadian station - would clearly be direct discrimination against cable subscribers.



Since cable users can evade such restrictions by utilizing their own antennas, they will prove futile and will serve no purpose but to antagonize cable viewers and damage the cable television industry. Moreover, the very large number of antenna systems serving apartments, the fastest growing sector in the housing market, are capable of installing powerful antennas to provide all the signals a cable system could provide and are totally exempt from such restrictions.

The U.S. stations which will be affected by the blackout provisions have for the most part been established for many years and many Canadian cable subscribers have long-established habits of viewing these stations. Restriction of these well established viewing patterns will clearly prove unacceptable.

The Association is confident that the Commission has had no intention of discriminating against cable subscribers in this way and strongly recommends that any regulation concerned with limiting transmission of U.S. station programming specifically exempt those areas where the signals are available off-air. For these purposes any U.S. station whose signals can be acquired by means of a local head end should be considered to be a local station in the area and to be exempt from any limiting regulations.









### SECTION 3

#### CHANNEL PRIORITIES

Under the Commission's proposed guidelines there appear to be two ways that cable systems could be required to delete stations which they are currently carrying:

- (i) limitation of U.S. signals carried to one commercial and one non-commercial station
- (ii) "bumping" of stations which are replaced by stations with a higher priority according to the Commission's list of priorities

With respect to cable systems being limited to the transmission of only two U.S. signals, the Association believes that it is not the Commission's intention to impose such a limitation where the signals can be received by a local head end. The cable industry and its subscribers would find such a limitation of service totally unacceptable.

The impact of the list of priorities on the utilization of available channels by cable operators has been carefully studied by the Association. The effect varies by market area and to a certain extent, by cable system, due to the availability of stations to be carried and to the number of channels on cable which cannot be used for transmission of television signals for technical reasons. Table 2 opposite shows the impact of the priorities on cable operators in seven major cities in Canada which represent roughly 40% of the households in Canada and about 61% of cable subscribers (using the Commission's figures as of September 1, 1969).



Province	Total Viewers in Province	No. of U.S. Channels Received Without Cable					
		1		2		3 or More	
		Viewers	% Of Province	Viewers	% Of Province	Viewers	% Of Province
Nfld.	490,300	-	-	-	-	-	-
P.E.I.	105,900	-	-	-	-	-	-
N.S.	738,900	-	-	-	-	-	-
N.B.	604,800	76,330	12.6	-	-	76,330	12.6
Que.	5,833,200	579,410	9.9	2,576,850	44.2	48,170	0.8
Ont.	7,303,100	549,230	7.5	-	-	4,730,270	64.7
Man.	951,700	688,600	72.3	-	-	688,600	72.3
Sask.	925,600	-	-	-	-	-	-
Alb.	1,514,700	-	-	-	-	-	-
B.C.	2,031,700	1,375,340	67.7	-	-	1,375,340	67.7
Canada	20,499,900	3,268,910	15.9	2,576,850	12.6	4,778,440	23.3
						10,624,200	51.8

These figures have been developed from B.B.M. data and have been adjusted for Quebec to take into account the reduced tendency for French-speaking families to view U.S. stations.



The impact of the priorities on the systems in the seven cities shown in Table 2 can be summarized as follows:

	<u>Number of Station Channels</u>		
	<u>Available for use by CATV systems</u>	<u>Currently being used</u>	<u>Dropped to meet guideline requirements</u>
Montreal	8	8	5
Quebec	9	9	3
Vancouver	9	9	1
Winnipeg	9	8	1
Ottawa	9	9	3
Hamilton	11	9	0
Toronto	10	10	2

From these tables, it appears that if the Guidelines are implemented almost all of the cable systems in these areas will be forced to drop some stations currently carried and for the most part it will be U.S. stations which must be dropped.

In many areas, the proposal to impose restrictions on the channels available to cable subscribers appears to be discriminatory since many of the stations which would be deleted from cable would be available off-air.

Table 3 on the opposite page shows the number of viewers able to receive U.S. channels without cable and without resort to an unusual type of antenna. This shows that over half of all Canadian viewers have access to at least one U.S. station off-air. Almost two-thirds of Ontario viewers have access off-air to three or more U.S. stations and 44% of Quebec viewers have access to two U.S. stations. Two-thirds of British Columbia viewers get one U.S. station off-air. Appendix B provides supporting material for the data in Table 3.





It is obviously extremely questionable to propose that cable viewers should be forced to accept a selection of programming that differs from that which they would be inclined to select themselves off-air simply because cable represents an opportunity to impose priorities.

The Association appreciates that the Guidelines are generalizations of principles and that the Commission does not intend to discriminate against cable subscribers in the manner in which a rigid interpretation of the priorities suggests. The Association recommends that the Commission adopt the following qualifications to the priority proposals:

- (i) No action be taken to remove any stations from cable service or proposed cable services where that station can be obtained in the licensed area by means of a local head end.
- (ii) Where stations operate on a part-time schedule (such as educational stations) the cable operators should be free to have stations "share" cable channels.
- (iii) Where it is necessary to drop either a U.S. station or a non-B contour Canadian station, the choice should be made on the basis of which station best serves the public interest by providing the greatest additional diversity of programming.
- (iv) B contour stations which largely duplicate other stations carried by the system should not have priority over U.S. stations with greater established viewer interest in the area.



SECTION 4

BLACKOUT OF U.S. PROGRAMMING

The Association completely rejects the '7-day' blackout proposals which would deprive cable users of established services which they have valued and enjoyed.

If such blackout regulations are imposed by the Commission in areas where the signals are available by means of a local head end, they will represent direct discrimination against cable viewers and will be an unacceptable limitation of viewer choice. Since blackout will likely prove largely ineffectual in furthering the Commission's objectives, this makes application of the proposal even more questionable.

While the principle of blackout is most undesirable the Association agrees that non-duplication of U.S. programming run simultaneously with Canadian programming would not represent a loss of "choice" to cable subscribers as they could get the same program by merely changing the dial, or even without changing the dial if the cable operator substituted the Canadian station's programming on all the duplicate channels. Except where it would result in substantially increased operating costs (as it would to the small operators), the Association sees merit in the proposal for substitution of simultaneous programming.

On the other hand, the Association considers the blackout of non-simultaneous programs completely unacceptable. The U.S. practice of same-day blackout should not be construed as having a parallel in Canada since there is no similar pre-release programming by U.S. broadcasters and most duplicated programs are simultaneously broadcast.



The Association will oppose any proposal to black out non-simultaneous U.S. programming with every resource at its command.

The reasons can be summarized briefly:

1. Blackout of this kind would be an intolerable limitation of choice to cable subscribers.
2. It is questionable that the proposed blackouts would significantly strengthen the financial position of Canadian broadcasters and thereby further the Commission's aims.
3. As presently phrased, the Guidelines would require cable operators to prove they are not damaging Canadian broadcasters if they wish to be exempt from blackout. On the other hand, the broadcasters are not required to prove that they are being damaged and that the damage is significantly jeopardizing their service.

We have dealt with these reasons below:

#### Limitation of Choice

The blackout of non-simultaneous programming directly deprives cable viewers of well established rights of choice in programming. The cable subscriber is not only deprived of watching the programming at the U.S. station's time slot, but in addition if it forces him to watch the program at the Canadian time slot, this deprives him of the alternative programs available at that time. Blackout of non-simultaneous programs will inevitably reduce the total of programming choices available to the cable subscribers.





Table 4

VIEWER REACTION TO EFFECT OF GUIDELINE PROPOSALS

	SURVEY AREAS		
	Metropolitan Toronto	Metropolitan Montreal	Ottawa
<u>SURVEY RESPONSE RATE</u>			
Cable Viewers	47%	29%*	51%
Non-Cable Viewers	42%	25%	38%
* Mailed just as mail strike took effect			
<u>CABLE VIEWER OPINION</u>			
Reaction to Proposal to Blackout U.S. Programs Duplicated on Canadian Stations	(Percentage figures below are percentages of total responding)		
Agree Strongly	12%) 31%	18%) 32%	21%) 41%
Agree somewhat	19%)	14%)	20%)
Neither Agree Nor Disagree	13%	11%	9%
Disagree Somewhat	14%) 50%	9%) 48%	14%) 45%
Disagree Strongly	36%)	39%)	31%)
Not Indicated	6%	9%	5%
	100%	100%	100%
Reaction to Loss of One U.S. Station Under Station Priority Proposal			
Agree Strongly	4%) 13%	8%) 9%	7%) 14%
Agree Somewhat	9%)	1%)	7%)
Neither Agree Nor Disagree	4%	3%	5%
Disagree Somewhat	11%) 69%	7%) 63%	13%) 69%
Disagree Strongly	58%)	56%)	56%)
Not Indicated	14%	24%	12%
	100%	100%	100%
<u>REACTION WITH REGARD TO CONTINUATION OF CABLE SUBSCRIPTION</u>			
If Duplicated Programs Blacked Out			
Would Not Do Anything	48%	26%	31%
Might Consider Cancelling	16%	19%	22%
Would Seriously Consider Cancelling	16%) 27%	13%) 40%	20%) 35%
Would Definitely Cancel	11%)	27%)	15%)
Not Indicated	9%	15%	11%
	100%	100%	100%
If One U.S. Station Deleted			
Would Not Do Anything	31%	12%	16%
Might Consider Cancelling	13%	17%	24%
Would Seriously Consider Cancelling	26%) 42%	16%) 46%	22%) 44%
Would Definitely Cancel	16%)	30%)	22%)
Not Indicated	14%	25%	16%
	100%	100%	100%
<u>OPINIONS OF NON-CABLE VIEWERS</u>			
Reaction To Proposal To Blackout U.S. Programs Duplicated on Canadian Stations			
Agree Strongly	15%) 30%	30%) 44%	25%) 48%
Agree Somewhat	15%)	14%)	23%)
Neither Agree Nor Disagree	19%	20%	15%
Disagree Somewhat	14%) 49%	9%) 29%	10%) 34%
Disagree Strongly	35%)	20%)	24%)
Not Indicated	2%	8%	2%
	100%	100%	100%
Effect of Proposed Program Blackout On Likelihood of Subscribing			
More Likely to Subscribe	9%	17%	8%
Would Not Affect Decision	13%	8%	14%
Less Likely to Subscribe	50%) 75%	52%) 67%	55%) 70%
Would Definitely Not Subscribe	25%)	15%)	15%)
Not Indicated	3%	8%	8%
	100%	100%	100%



The Association commissioned an independent consulting firm to undertake a series of identical public opinion surveys in a number of communities in order to obtain an objective indication of the reaction of cable subscribers and non-cable subscribers to the proposed blackout provisions.

The results of the surveys are shown in Table 4 opposite.

The general conclusions which may be drawn from these surveys are as follows:

1. Cable viewers show a clear similarity of opinion across all three areas.
2. Cable viewer disagreement with the proposal to blackout duplicated programs is substantially greater than viewer approval. On average, twice as many cable viewers "strongly disagree" as those who "strongly agree".
3. Cable viewers objections to the station priority proposal which could cause U.S. stations to be dropped is very strong. Five to seven times as many viewers oppose this proposal as those who agree with it.
4. Implementation of the blackout proposal would, in the areas surveyed, likely result in subscriber losses in the range of 27% to 40%; if the station priority proposal was implemented from 42% to 46% would seriously consider or would definitely cancel their subscriptions.
5. While non-cable user opinion on the blackout and priority Guidelines was mixed, the effect of the Guidelines on likelihood to subscribe to cable was not. From 67% to 75% of viewers indicated they would be less likely to subscribe or definitely would not subscribe if blackout was implemented.



These results reflect the underlying reasons why viewers subscribe to cable television. The surveys also explored the reasons for subscribing and the results showed the following:

Proportion of Respondents Indicating Reason  
As Most Important

<u>Reasons for Subscribing to Cable</u>	<u>Metro Toronto</u>	<u>Metro Montreal</u>	<u>Ottawa</u>
To get U.S. stations not available without cable	6%	40%	39%
To improve quality of reception of U.S. stations	10	-	0
To get Canadian stations not available without cable	6	3	5
To improve quality of reception for Canadian stations	4	1	2
To improve quality of colour T.V. reception generally	11	1	1
To eliminate need for roof antenna	7	6	0
Other reasons	11	1	1
Not Indicated	35	48	52

These results emphasize that the most important reason for subscribing to cable is to get or improve reception of U.S. stations. The public interest in the U.S. stations is a basic fact which cannot be ignored and certainly cannot be regulated.

While these limited surveys were not intended to provide any kind of precise measurement of Canadian public opinion, their results present some inescapable general conclusions. The first of these is that the proposed blackout provisions and the likely impact of the proposed station priorities are thoroughly unacceptable to a very significant part of the viewing public. The second is that if these proposals are implemented





the cable television industry will almost certainly be dealt a crippling blow as they will result in subscription losses of up to a third of revenues while at the same time effectively retarding future growth. It should be pointed out here that the financial losses to cable operators will undoubtedly far exceed the questionable financial gains which the Commission seeks for the broadcasters.

The limitation of choice becomes very apparent from Table 5 opposite page 22. Table 5 shows that about half of all the present prime time programming on the U.S. stations would be blacked out under the Commission's proposals. This would be considerably reduced when the new Canadian content rules are fully applied - but it would still represent a very substantial reduction in service.

We should point out here that a large number of advertising agencies and Canadian advertisers were questioned on their views of the effect of blackout. While they were not asked for opinions on the principle of blackout or its public acceptance (they were asked to advise what effect it would have on advertising policies) they were almost unanimous in expressing their condemnation of the idea of blackout and the likelihood it would be unacceptable to the general public.

#### The Usefulness of Blackout

The Commission has stated that the purpose of proposing blackout is to protect Canadian broadcast revenues.

Blackout of U.S. programming would only prove worthwhile to Canadian broadcasters if it increased their audience significantly and if as a result they would be able to obtain advertising revenues they



DUPLICATION OF PROGRAMS CAUSING 'BLACK OUT' IN  
PRIME TIME IN TORONTO, MONTREAL, OTTAWA  
(Based on Program Schedule for Spring, 1970)

Hours Blacked Out Per Day and Week									% of Prime Time
Sat.	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Total		
to									
S. Stations Blacked Out									
WGR - Buffalo Ch. 2	0.5	2.5	1.5	1.5	-	2.0	2.0	10.0	35.7
WBEN - Buffalo Ch. 4	3.5	3.5	3.0	1.5	0.5	0.5	1.5	14.0	50.0
WKBW - Buffalo Ch. 7	0.5	2.0	1.0	2.0	3.5	2.5	1.0	12.5	44.6
Total	4.5	8.0	5.5	5.0	4.0	5.0	4.5	36.5	43.4
n. Stations "Causing" Black Out									
CBLT - Toronto Ch. 6	1.5	4.5	2.0	2.5	1.0	2.0	1.5	15.0	53.6
CFTO - Toronto Ch. 9	2.0	2.0	2.5	2.5	3.0	4.5	0.5	17.0	60.7
CHCH - Hamilton Ch. 11	2.0	2.5	1.0	-	-	0.5	2.5	8.5	30.4
Total	5.5	9.0	5.5	5.0	4.0	7.0	4.5	40.5	(2) 48.2
real									
S. Stations Blacked Out									
WCAX - Burlington Ch. 3	2.0	3.5	2.0	1.5	1.0	0.5	-	10.5	37.5
WPTZ - Plattsburg Ch. 5	-	2.5	1.5	1.5	-	2.0	1.5	9.0	32.1
WMTW - Poland Spring Ch. 8	-	2.0	1.0	2.0	3.0	1.5	0.5	10.0	35.7
Total	2.0	8.0	4.5	5.0	4.0	4.0	2.0	29.5	35.1
n. Stations "Causing" Black Out									
CBMT - Montreal Ch. 6	-	5.0	2.0	2.5	1.0	-	1.5	12.0	42.9
CFCF - Montreal Ch. 12	2.0	3.0	2.5	2.5	3.0	4.0	0.5	17.5	62.5
Total	2.0	8.0	4.5	5.0	4.0	4.0	2.0	29.5	52.7
awa									
S. Stations Blacked Out									
WPTZ - Plattsburgh Ch. 5	-	2.5	1.5	1.5	-	2.0	1.5	9.0	32.1
WWNY - Watertown Ch. 7	2.0	3.5	2.0	1.0	-	0.5	1.5	10.5	37.5
Total	2.0	6.0	3.5	2.5	-	2.5	3.0	19.5	34.8
an. Stations "Causing" Black Out									
CBOT - Ottawa Ch. 4	-	6.0	2.0	2.0	-	-	2.0	12.0	42.9
CJOH - Ottawa Ch. 13	2.0	-	1.5	0.5	-	2.5	1.0	7.5	26.8
Total	2.0	6.0	3.5	2.5	-	2.5	3.0	19.5	34.8

es:

Prime Time = 7:00 P.M. - 11:00 P.M.

This figure is greater than the 36.5 hours of U.S. station time blacked out, as the blackout is sometimes "caused" by more than one Canadian Station.



would not have had without blackout. This means that advertisers would have to be persuaded that Canadian broadcasting of U.S. programs would be a better advertising vehicle if blackout is imposed.

The question which is raised is not whether Canadian broadcast audiences would be increased by blackout - they would inevitably obtain some increase - but whether the result would produce a worthwhile increase in revenues.

This depends on a number of key factors:

- (i) The amount of U.S. programming which would be duplicated on both U.S. and Canadian stations.
- (ii) The number of cable subscribers in the station area.
- (iii) The number of cable subscribers who would watch the programming which would be blacked out on the U.S. stations.
- (iv) The number of those cable subscribers referred to in (iii) above who would actually elect to watch the programming when it comes on the Canadian channel instead of watching alternative programs offered at that time on other channels or resorting to off-air reception of U.S. stations.
- (v) The extent to which other factors such as "package" deals for mixtures of time slots, the pre-season guessing as to the popularity of new shows, and the effect of new time slots for old programs, etc., would reduce the ability of the stations to improve their revenue positions.

In Table 5 opposite we have shown an analysis we have carried out of the amount of programming in the Toronto, Montreal, and





Ottawa schedules (Spring, 1970) which would be affected by blackout under the proposals. This analysis shows the percentage of prime time programming of U.S. stations which would be blacked out and the percentage of prime time programming of Canadian stations which would presumably benefit.

This can be briefly summarized as follows:

	<u>% of Total Prime Time</u>	
	<u>Canadian Broadcasting "Benefited"</u>	<u>U.S. Station Broadcasting Blacked out</u>
Toronto	48.2%	43.4%
Montreal	52.7	35.1
Ottawa	34.8	34.8

The amount of Canadian programming in prime time which would cause blackout will vary between stations (particularly between the CBC and privately owned stations) because of the stations programming and of the number of U.S. station signals available. At the present time it is probably safe to assume that it will average about 50% of prime time when there are three U.S. networks available. The private Canadian stations will average about 60%. Our analysis of non-prime time programming in Toronto shows that only 4.9% of non-prime time programming would cause blackout. (Appendix C )

While we have not attempted detailed analysis of all Canadian markets we have no reason to believe that Toronto, Montreal, and Ottawa would vary widely from programming in other Canadian areas. French language stations would of course have very little duplicate



programming if it is assumed that dubbed-in voices would be considered for these purposes to be a change in program content.

Since approximately 75% of total revenues come from prime time programming, it can be calculated that blackout could affect programs under present schedules that provide about 40% of the revenue of Canadian broadcasters. Once the Canadian content rules apply fully, this percentage would likely be reduced to somewhere between 27% and 30%.

Next, the proportion of cable subscribers to total viewers should be considered. The Commission's statistics of September 1969 show:

	Proportion of Television Homes using Cable
Toronto	13%
Montreal	16
Ottawa - Hull	45
London	80
Winnipeg	9
Vancouver	50
All Canada	17

While these figures are now outdated and in fact differ somewhat from recent BBM data for the same period, it is felt that they still provide a reasonable indication of the penetration of cable in Canada. As can be seen, there are wide variations - due mainly to three factors: the extent to which the area is licensed for cable; the number of stations which can be received satisfactorily without cable; and the proportion of the population which speaks French. Growth in the penetration of cable will come relatively quickly in newly licensed areas.



Table 6

ANALYSIS OF CABLE VS NON-CABLE VIEWER HABITS  
ON PROGRAMS DUPLICATED ON CANADIAN AND U.S.  
STATIONS AVAILABLE IN TORONTO AND HAMILTON AREAS  
(Figures are impressions in 100's)

Prime Time Duplicated Programs	All Viewers		Cable Viewers		Non-cable Viewers	
	Cdn. Stations	U.S. Stations	Cdn. Stations	U.S. Stations	Cdn. Stations	U.S. Stations
Simultaneous Transmission						
It Takes a Thief	1,302	437	372	166	930	270
Ed Sullivan	2,378	1,641	479	403	1,843	1,234
Mod Squad	1,531	572	355	292	1,174	280
Subtotal -	5,211	2,650	1,206	861	3,947	1,784
Share -	66%	34%	58%	42%	69%	31%
Pre-Released in Canada						
	One Hour Shows					
Land of the Giants	498	287	130	35	354	252
Carol Burnett	1,616	1,285	434	286	1,177	986
Brackens World	417	374	62	16	354	358
Glen Campbell	944	1,335	245	434	692	899
Red Skelton	1,667	709	359	273	1,294	408
Jackie Gleason	1,583	664	312	246	1,225	411
Johnnie Cash	1,642	831	406	372	1,224	458
Marcus Welby	1,426	1,585	236	699	1,183	882
Engelbert	1,059	837	371	338	685	498
Name of the Game	1,670	516	445	118	1,165	398
Laugh In	2,946	2,103	704	585	2,238	1,491
F.B.I.	1,283	1,026	301	404	941	621
Subtotal	16,751	11,552	4,005	3,806	12,532	7,662
Share -	59%	41%	51%	49%	62%	38%
	Half Hour Shows					
Family Affair	1,124	477	267	127	838	349
Lucy	1,191	608	254	239	880	370
Gov. & J.J.	1,113	433	299	180	752	250
That Girl	645	475	166	164	448	310
Adam - 12	417	273	241	159	176	114
Eddie's Father	1,392	562	382	313	1,010	248
Pat Paulson	736	384	330	161	376	223
Nanny	1,405	619	432	200	967	419
Bev. Hillbillies	1,154	588	354	55	793	533
Ghost & Mrs. Muir	590	684	107	212	469	472
Green Acres	1,190	210			881	210
Doris Day	1,035	844	217	256	811	588
Bill Cosby	1,113	709	253	284	853	421
Debbie Reynolds	714	251	205	118	509	133
Subtotal	13,819	7,117	3,507	2,468	9,763	4,640
Share -	66%	34%	59%	41%	68%	32%
Total Prerelease Prog.	30,570	18,669	7,512	6,274	22,295	12,302
Share -	62%	38%	55%	45%	64%	36%
All Programs	35,781	21,319	8,718	7,135	26,842	14,806
Share -	63%	37%	55%	45%	64%	36%

Note: Figures from BBM reach report covering broadcast period March 2 - March 15, 1970.





Toronto should show a considerable spurt in the next two to three years, but its penetration will inevitably be slowed by the easy accessibility off-air of U.S. television. Montreal's cable penetration will be slowed because of the ready accessibility off-air of the U.S. English language stations and the relatively small addition of French language stations offered by cable.

It is reasonable to assume that 50% is a "normal" penetration to be expected for areas without easy off-air excess to a variety of stations; some technically "isolated" areas will likely achieve much higher levels of penetration. However, it is difficult to forecast the major market areas in Canada achieving an average across Canada of better than 30% in the next few years until technological development permits cable to offer the kinds of services that will come with large increases in the number of channels, facsimile services, etc.

Next we must consider the proportion of the cable viewers that would be affected. In Table 6 opposite we have shown the results of an analysis of a BBM survey commissioned by the Association. From this it can be seen that about 45% of cable viewers watch the duplicated programs on U.S. stations.

While this analysis was limited to prime time viewing in Metropolitan Toronto and Hamilton in March, 1970, it is not markedly different from the BBM data (for all time slots) for November, 1968. At this time Metropolitan Toronto cable users watched U.S. stations about 43.4% of the time.



As Toronto cable viewers (and non-cable viewers) are able to receive all 3 of the U.S. networks and very few market areas exceed this capability, it is felt that the use of the results in Table 6 as representative of Canadian viewing habits is quite realistic and, if anything, is overly conservative. Thus, it is reasonable to assume that 45% of cable users will watch the U.S. station to view programs duplicated within a 7-day period on U.S. and Canadian stations.

The foregoing analysis leads to the following conclusions:

- (i) Over the next few years the average cable penetration across all Canada is not likely to exceed 30%.
- (ii) The maximum proportion of cable viewers watching duplicated programs on U.S. stations is likely to be about 45%.
- (iii) From this it can be seen that roughly 13.5% (that is 30% of 45%) of all viewers will watch the duplicated programs on cable. These are all the viewers who could be forced to watch Canadian stations by the blackout provisions.
- (iv) The viewers watching the duplicated programs on Canadian stations consist of two groups:
  - The cable viewers who watch the Canadian stations. These amount to 16.5% of all viewers (that is 55% of cable viewers at 30% cable penetration).
  - The non-cable viewers who watch Canadian stations. These amount to 44.8% of all viewers (that is 64% of non-cable viewers).

The total of these two groups amounts to 61.3% of all Canadian viewers, cable or non-cable.



- (v) The 13.5% of all viewers who could be forced by blackout to watch the duplicated programming on Canadian stations, would (if all of them transferred) represent an increase of 22% to the number of viewers watching the duplicated shows on Canadian stations.
- (vi) If the maximum number of viewers were transferred by blackout and if the transfer could result in a directly proportionate increase in revenue to Canadian broadcasters, the effect of this transfer on the 40% of total revenues which the duplicated programs provide, would be at maximum an increase of 8.8% in total revenues.

However there are a number of important factors which will reduce this maximum increase in revenues:

- (i) The imposition of the new Canadian content rules which will cut the percentage of revenue now derived by Canadian broadcasters from duplicated programming.
- (ii) All the things which will reduce the number of viewers who transfer their viewing because of blackout: inconvenience of the Canadian time slot, watching U.S. programming off-air, preference for other programming during the Canadian time-slot for the duplicated programming.

With the imposition of the Canadian content rule, the maximum increase in Canadian broadcast revenues because of blackout would be about 6.6%.



In conclusion, it is certainly not realistic to assume that all of the viewers would, in fact, transfer. If only half of the viewers were to transfer to watching the Canadian stations if blackout was implemented, the Canadian broadcasters could expect a resulting increase of only 3.3% in their revenues. We feel that this 3.3%, if anything, overestimates the benefit that would be realized by the broadcasters due to the implementation of blackout.

We do not pretend to be able to estimate what the exact range of increase in revenue would be. However, we feel it is self evident from the foregoing analysis that it would likely be relatively small. While any increase (particularly one without increases in cost) would be valuable and undoubtedly most welcome to the broadcasters, we suggest that this slight improvement in Canadian broadcast revenues would be a very small return for what the cable viewers would pay in interference with well established viewing practices.

We mentioned previously that we undertook a limited survey of opinion of major advertisers and advertising agencies to determine their views of the effect of blackout on Canadian broadcast revenues. Most of those interviewed stated that it was as yet not quite clear what precise effect blackout would have on the Canadian stations reach. In general they felt that it would be difficult to judge what Canadian broadcasters could claim. However, the majority of those interviewed felt that blackout could not have any major impact on rates.





Canadian broadcasters have supported the pre-release of U.S. programming on the basis that it gives them a competitive edge over the U.S. programming. The data in Table 6 (opposite page 25) suggests that the simultaneously broadcast programs obtain greater viewer shares for Canadian broadcasters than those pre-released. While this may be due to the specific programs concerned and their lead-ins, it appears to the Association that the effectiveness of pre-release should be thoroughly studied.

#### Blackout Exemption

The Guidelines state that the blackout provisions will apply unless specifically authorized by the Commission.

This can only be interpreted as imposing on the cable operators the responsibility to seek to have their station exempted. And since the Commission's stated reason for proposing blackout is the protection of essential broadcasting services, it must be assumed that the cable operator would have to show that broadcast services were not being damaged significantly or alternatively that the damages to the cable operation were worse. Either would be almost impossible to establish precisely without detailed knowledge of the financial affairs and operating positions of the other broadcasting services - knowledge which a cable operator could not be expected to have or to get. Clearly this would put cable operators in a most unfair position.

We find it somewhat strange that there is no suggestion on the Commission's part that broadcasters should show proof of sufficient damage arising from the cable operations before imposition of blackout - although this would appear to follow general practice on questions of damage.



It is the Association's view that there is considerable question that broadcasters are being seriously threatened by cable transmission of duplicated programming and it is equally questionable whether the imposition of blackout would redress damage or cause any really significant improvement in broadcast revenues.

We strongly object to blackout as a limitation of freedom of choice. Moreover, it would be unreasonable to impose any requirements of this kind on cable systems in the absence of proof that the broadcaster's financial well-being is seriously threatened by cable's transmission of the duplicated programming.

As written the Guidelines appear to suggest that cable operators should be held responsible for a further form of blackout - that is for monitoring the U.S. stations carried by their systems and deleting advertising or program content which is in contravention of Canadian regulations. The Association must point out that this would be highly impractical and almost impossible to implement effectively. More importantly it would impose a form of censorship on cable viewers which would not be imposed on non-cable viewers.

The Commission has also proposed that a cable system may be refused permission to carry a T.V. station that "solicits Canadian advertising outside of his market or licensed area ...". If it is deemed to be in the public interest that this flow of funds not take place, the Association feels that the resolution of the problem should not take the form of discrimination against cable viewers while ignoring the larger group of non-cable viewers. While we appreciate



that it is not within the scope of the Commission's responsibilities to deal with tax considerations, we suggest that it would not be outside the Commission's function to point out to the appropriate agency of the Canadian Government that the financial position of Canadian broadcasters might be threatened by the flow of Canadian advertising dollars to U.S. border stations. The precedent established for exempting Canadian advertising expenditures in U.S. print media from allowable expenses for tax purposes might well be applied to broadcast advertising to the substantial benefit of Canadian broadcasters.





## SECTION 5

### SUMMARY OF RECOMMENDATIONS

Two important points underly the Association's recommendations in this brief.

The first is that the value of cable television's present and potential future contribution to essential Canadian broadcast services - particularly to community services - is very great and these services must not be jeopardized by regulatory action which may cause more damage to public services than the unproven damage which it seeks to redress. In this regard we must emphasize that the factors which fragment television viewing and present problems for the broadcasters are caused by public needs and demands and not by cable television which seeks to serve them. The Commission's laudable desire for increased local service and wider variety of programming is in itself a force for audience fragmentation.

Secondly, cable viewers must not have their viewing regulated in a manner which results in their being deprived on cable of programming available off-air.

To clarify the intent of the guidelines and to ensure equitable and practical regulations the Association strongly recommends the following:

1. Regulations which would materially affect the financial viability of cable operations should be applicable to new



markets only. Where this is not possible, the effective date of the new regulations should be delayed a sufficient time from its promulgation to allow operators to take effective compensatory action, to develop the financial resources necessitated by the change, and to use the normal growth of the system to offset possible subscriber losses.

2. The Commission should set up a special class of cable license for license areas with less than 5,000 subscribers. This class should be exempt from any regulations which establish minimum station coverage or special programming requirements. This class should also be exempted from regulations restricting programming for the purpose of protecting other broadcast services.
3. The Commission's licensing and regulatory practices should give due consideration to the long-term nature of the investment required in cable television. In particular the term of the license should be sufficient to provide reasonable security.
4. Where a station's signals are available in the licensed area off-air with a local head end, a cable operator should be exempt from putting into effect regulations which would restrict the cable viewers' reception.
5. Where a cable system carries stations which operate only part time, the operator should have the option of using the "free" time to meet other programming commitments.



6. Where it is necessary to drop either a U.S. station or a non-B contour Canadian station, the choice should be made on the basis of which station best serves the public interest by providing the greatest additional diversity of programming.
7. B contour stations which largely duplicate other stations carried by the system should not have priority over U.S. stations with greater established viewer interest in the area.
8. Blackout of non-simultaneous U.S. programming should only be imposed where the other broadcasting services serving the licensed area can show proof that they are being damaged by the duplicate programs on cable sufficiently to endanger continuation of their operations.

While the imposition of blackout is unacceptable to the Association in principle, the Association sees merit in the proposal for substitution of simultaneous programming in those instances where the required program controls would not result in substantially increased operating costs. This acceptance is based on the fact that such substitution would not result in a loss of choice for cable viewers.





CANADIAN RADIO-TELEVISION COMMISSION  
CONSEIL DE LA RADIO-TÉLÉVISION CANADIENNE

OTTAWA, APRIL 10, 1970

PUBLIC ANNOUNCEMENT

GUIDELINES FOR APPLICANTS REGARDING LICENCES  
TO CARRY ON CATV UNDERTAKINGS

Decision CRTC 70-93

The Canadian Radio-Television Commission, in its Public Announcements of May 13, 1969, and December 3, 1969, outlined in general terms the interim policies it would follow in granting licences for the operation of community antenna television systems. The Commission is of the opinion that CATV is an important part of the Canadian broadcasting system, but that it should develop without threatening the essential service provided by the rest of the system.

The Commission must constantly recognize that broadcasting provides a service in non-urban areas where development of CATV is not foreseen for many years because of the low density of population. These non-urban areas could be deprived of present TV service if CATV developments resulted in the financial failure of local TV stations.

The CBC English language network as of March, 1969, was still not available to 615,000 English speaking people and the French language network was not available to 439,000 French speaking people. This data breaks down into 185 English speaking and 60 French speaking communities of 500 or more persons not receiving a service in the language of the community. Over 25% of the English and bilingual population do not yet have CTV network service and French language alternate television service is still not available to 1.3 million French speaking people.

Based upon intensive consultations since May, the Commission publishes the following guidelines as a further development of its announcements of May 13 and December 3, 1969. This document will take precedence over other announcements where appropriate. It is intended as a guide to applicants for licences, amendments to licences and renewals of licences to carry on CATV undertakings.





The Commission pointed out in its announcement of May 13, 1969, that CATV local programming should complement, rather than compete with, programming already available to the community. It placed particular emphasis on the opportunity for CATV licensees to enrich community life by fostering communication among individuals and community groups. In the development of programs of interest to communities, it is the hope that CATV programmers will be motivated by innovation rather than imitation. Local programs should be based on access and freedom from the restraint of program schedules which are often less flexible in conventional broadcasting.

In its announcement of December 3, 1969, the Commission indicated that it was conscious of the right of all Canadians to share in their homes a wide range of broadcast programming "using predominantly Canadian creative and other resources", as well as a selection of programs of interest to Canadians derived from the United States and other countries. "Where a second television service already exists," it said, "the Commission will consider all plans which have been or will be brought to its attention in order to accelerate the development of Canadian broadcasting services, including CATV.... Such a development should include all regions of the country, including those where cable broadcasting is not now available, such as the interior of British Columbia, parts of the Prairies, Ontario and Quebec, and the Atlantic Provinces. The Commission is of the opinion that this development along an east-west axis is imperative in the public interest."

It is the view of the Commission that this development must take into account:-

- (a) the maintenance of basic local television service;
- (b) the extension of alternative Canadian television service; and
- (c) the need to apply a consistent CATV policy across the country.

In order to achieve these objectives, the Commission now proposes the following basic guidelines:

1. A proposed CATV system should not prevent the extension of television service into an area, seriously inhibit local television programming or cause the financial failure of a broadcasting station serving the area. In granting a licence to carry on a CATV undertaking, the Commission may, as a condition of licence, reduce the number of channels from that requested by the applicant if such action is necessary to maintain the principles expressed in this paragraph.



2. The following list revises the priorities contained in the announcement of May 13, 1969, and will be used by the Commission as a basis for determining the channels to be carried by a system proposing a local head-end or distant head-end connected to the distribution cable by a broadband system:

- (a) CBC network service
- (b) Canadian private network service
- (c) Canadian B contour TV stations
- (d) A channel for community programs
- (e) The Commission may require reception from additional Canadian stations which have significantly different program schedules from those stations which come within categories (a) to (c)
- (f) Service from one non-Canadian commercial station
- (g) Service from one non-Canadian non-commercial station
- (h) If a system carries FM stations, it should carry all available Canadian FM stations in both official languages
- (i) A CATV system may be required to carry, at the discretion of the Canadian Radio-Television Commission, the signals of AM broadcast stations where they are needed because of special circumstances.

3. The Commission may authorize a CATV system operating with a local head-end to carry programs from more than one non-Canadian commercial television station.

4. Each receiving head-end must be located within Canada and controlled by a licensee of a broadcasting undertaking.

5. The non-Canadian programs broadcast by Canadian broadcasting stations serving the area shall not be duplicated on a CATV system simultaneously or during the week prior to and the week subsequent to the date of airing on the Canadian stations unless specifically authorized by the Commission.

6. Notwithstanding Paragraph 2, a minimum of one channel must provide for the distribution of educational television programs.

7. Where the population composition of any licensed area requires it, an additional local program channel must be devoted to programs in the other official language unless otherwise authorized by the Commission.



8. A system for the importation of non-Canadian signals should be consistent with the ultimate development of an orderly east-west distribution of systems within Canada.

9. Applicants are reminded that advertising or programs which are prohibited by Canadian laws or regulations should not be carried.

10. Networks of CATV undertakings may be authorized by the Commission if satisfactory evidence is provided that such interconnection is in the public interest.

11. Applicants should bear in mind that if a TV station solicits Canadian advertising outside of his market or licensed area so as to disrupt the economic balance established by the normal licensing practice, the Commission may refuse to authorize the distribution of its programs by a CATV system.

Because of the volume of applications which have been filed with the Commission and to give the Commission an opportunity to study the effects of the foregoing guidelines, until further notice the Commission will not consider any application from a licensee of an existing CATV undertaking for an amendment to its licence to install a distant antenna for connection to the distribution cable by a broadband system.

The Commission intends to propose regulations which would be the subject of a Public Hearing possibly in the Fall of 1970, and which would establish rules applicable to all existing and future CATV systems.

In the meantime, written comments on the guidelines may be filed with the Secretary, Canadian Radio-Television Commission, 100 Metcalfe Street, Ottawa 4, Ontario.

F. K. Foster,  
Secretary.





LISTING OF BBM AREAS  
WHERE U.S. TELEVISION SIGNALS ARE  
RECEIVED 'OFF-AIR'

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<u>Prov.</u>	<u>BBM Area</u>	<u>Population</u>	<u>U.S. Stations and % Reach</u>
N.B.	3035	119,670	WENT - 0
	3055	32,950	WABI - 6 WLBZ - 3 WENT - 1 WMED - 1
	3070	24,590	WABI - 0
	3080	59,340	WAGM - 1 WLBZ - 1 WABI - 2 WMEM - 0
	3120	39,640	WAGM - 0
	3135	42,340	WAGM - 56 WLBZ - 1 WABI - 3 WMEM - 2
	3150	33,990	WAGM - 28
		<u>352,520</u>	

<u>Prov.</u>	<u>BBM Area</u>	<u>Population</u>	<u>U.S. Stations and % Reach</u>
B.C.	9010	37,400	KXLY - 5 KREM - 2 KMQ - 3
	9025	51,820	KXLY - 7 KREM - 2 KMQ - 2 KSPS - 1
	9041	28,910	KREM - 11 KXLY - 18 KHQ - 11 KCFW - 0
			KSPS - 0
	9061	44,780	KREM - 2 KXLY - 2 KHQ - 1
	9075	39,430	KREM - 10 KHQ - 12 KXLY - 16
	9095	27,740	KVOS - 44 KOMO - 3 KING - 0 KIRO - 1
	9109	159,100	KVOS - 35 KOMO - 12 KING - 3 KIRO - 2
			KCTS - 1 KTNT - 0
	9121	67,520	KVOS - 63 KOMO - 13 KING - 8 KIRO - 3
			KTNT - 2 KCTS - 0
	9131	43,850	KVOS - 76 KOMO - 7 KIRO - 2 KING - 3
			KCTS - 1
	9139	(184,660)	KVOS - 18 KOMO - 14 KING - 9 KIRO - 5
			KTNT - 2 KTVW - 0 KCTS - 1
	9145	224,470	KVOS - 21 KOMO - 13 KING - 9 KIRO - 5
			KTNT - 2 KTVW - 0 KCTS - 0
	9161	52,660	KVOS - 34 KOMO - 4 KING - 3 KIRO - 3
			KTNT - 0
	9171	31,990	KVOS - 7 KOMO - 0 KING - 0
	9185	54,020	KVOS - 3 KOMO - 0 KING - 1 KIRO - 0
	9235	60,850	KVOS - 1
	9260	23,110	KVOS - 8 KOMO - 1 KING - 0 KIRO - 0
		<u>1,747,650</u>	



<u>Prov.</u>	<u>BBM Area</u>	<u>Population</u>	<u>U.S. Stations and % Reach</u>			
Quebec	4199	(430,370)	WMTW - 0	WCAX - 0		
	4200	397,590	WMTW - 0	WCAX - 0		
	4230	32,790	WMTW - 1			
	4260	56,650	WMTW - 1	WCAX - 0		
	4270	65,200	WMTW - 0			
	4280	50,560	WCAX - 0	WMTW - 0	WPTZ - 0	
	4295	45,620	WCAX - 1			
	4315	41,780	WMTW - 7	WCAX - 1		
	4330	20,480	WCAX - 14	WMTW - 15	WPTZ - 2	
	4340	36,460	WCAX - 14	WPTZ - 7	WMTW - 3	
	4349	(84,000)	WCAX - 4	WMTW - 7	WPTZ - 2	
	4350	99,410	WMTW - 8	WCAX - 5	WPTZ - 2	
	4359	(35,110)	WPTZ - 7	WMTW - 0	WCAX - 0	
	4360	61,410	WPTZ - 7	WCAX - 2	WMTW - 0	
	4369	(43,730)	WPTZ - 0	WVNY - 0	WCAX - 0	
	4370	64,400	WPTZ - 2	WCAX - 2	WVNY - 0	
	4380	40,590	WMTW - 2	WCAX - 6	WPTZ - 2	
	4395	48,170	WCAX - 30	WPTZ - 28	WMTW - 8	WVNY - 1
	4409	(43,800)	WCAX - 19	WPTZ - 10	WVNY - 2	WMTW - 1
	4410	19,890	WCAX - 15	WPTZ - 10	WVNY - 1	
	4420	30,030	WCAX - 20	WPTZ - 15	WMTW - 1	
	4430	42,830	WCAX - 26	WPTZ - 15	WMTW - 3	WVNY - 2
	4440	46,960	WPTZ - 1	WCAX - 1		
	4450	49,370	WPTZ - 2	WCAX - 1		
	4460	24,170	WPTZ - 2	WCAX - 0		
	4469	(34,380)	WCAX - 15	WPTZ - 6	WVNY - 6	
	4470	52,130	WCAX - 12	WPTZ - 5	WVNY - 2	
	4479	(2,485,400)	WCAX - 7	WPTZ - 1	WMTW - 1	WVNY - 0
			WETK - 0			
	4480	52,430	WPTZ - 1	WCAX - 3		
	4490	32,650	WCAX - 9	WPTZ - 3	WVNY - 2	WMTW - 0
	4500	206,570	WCAX - 8	WPTZ - 7	WMTW - 0	WVNY - 1
	4515	62,590	WPTZ - 6	WCAX - 4	WMTW - 0	WVNY - 1
	4535	66,770	WCAX - 26	WPTZ - 24	WMTW - 1	WVNY - 0
	4555	46,390	WCAX - 9	WPTZ - 5	WMTW - 2	
	4570	1,925,850	WCAX - 7	WPTZ - 8	WMTW - 1	WVNY - 0
			WETK - 0			
	4580	213,140	WCAX - 4	WPTZ - 5	WMTW - 0	WVNY - 0
	4590	41,340	WCAX - 4	WPTZ - 3	WMTW - 0	
	4599	(33,810)	WPTZ - 2	WCAX - 6		
	4600	127,250	WCAX - 9	WPTZ - 3	WMTW - 0	
	4615	68,280	WCAX - 6	WPTZ - 1		
	4630	26,580	WCAX - 0			
	4640	21,170	WPTZ - 6			
	4650	30,040	WCAX - 20	WPTZ - 14	WMTW - 2	
	4659	(94,640)	WPTZ - 0	WMTW - 0	WCAX - 0	
	4660	109,200	WPTZ - 0	WMTW - 0	WCAX - 0	
	4669	(62,280)	WPTZ - 1	WMTW - 0		
	4670	109,810	WPTZ - 1	WMTW - 0		
	4680	97,010	WVNY - 1	WPTZ - 0	WHEN - 0	WCAX - 0
	4690	52,430	WVNY - 0	WCAX - 0	WPTZ - 0	WHEN - 1
	4710	30,190	WCAX - 0	WPTZ - 1		
		4,646,180				



<u>Prov.</u>	<u>BBM Area</u>	<u>Population</u>	<u>U.S. Stations and % Reach</u>			
Ont.	5009	(45,920)	WPTZ - 21	WCAX - 15	WVNY - 3	WWNY - 0
			WHEN - 1	WSYR - 1		
	5010	59,070	WPTZ - 22	WCAX - 15	WVNY - 2	WWNY - 0
			WHEN - 1	WSYR - 1		
	5025	43,380	WPTZ - 18	WCAX - 16	WHEN - 0	WSYR - 0
			WWNY - 0			
	5040	20,750	WWNY - 1			
	5055	139,570	WWNY - 76	WPTZ - 5		
	5069	(522,340)	WWNY - 2	WPTZ - 1	WHEN - 0	WCAX - 0
	5070	434,250	WWNY - 2	WPTZ - 2	WHEN - 0	
	5080	149,190	WWNY - 73	WHEN - 7	WSYR - 8	WPTZ - 0
	5090	141,120	WWNY - 51	WHEN - 0	WSYR - 1	
	5109	(175,700)	WWNY - 80	WSYR - 39	WHEN - 30	WNYS - 31
	5110	101,590	WWNY - 80	WSYR - 39	WHEN - 30	WNYS - 28
			WROC - 0			
	5120	25,740	WWNY - 68	WSYR - 24	WHEN - 20	WNYS - 9
			WROC - 1			
	5130	20,350	WHEC - 62	WROC - 51	WOKR - 46	WWNY - 11
			WSYR - 8	WHEN - 10	WNYS - 8	WKBW - 3
			WBEN - 1	WGR - 2		
	5139	(33,420)	WHEC - 38	WROC - 36	WOKR - 29	WWNY - 11
			WBEN - 1	WNYS - 1	WKBW - 2	WHEN - 2
			WSYR - 1			
	5140	92,020	WHEC - 50	WROC - 39	WOKR - 34	WWNY - 10
			WBEN - 2	WSYR - 4	WKBW - 1	WNYS - 1
			WHEN - 3			
	5150	46,340	WHEC - 52	WROC - 51	WOKR - 31	WKBW - 34
			WBEN - 23	WGR - 14	WHEN - 1	WSYR - 2
			WWNY - 1			
	5159	(57,840)	WHEC - 17	WKBW - 9	WROC - 11	WBEN - 4
			WOKR - 3	WGR - 2	WHEN - 1	
	5160	83,890	WHEC - 19	WROC - 13	WKBW - 10	WBEN - 3
			WGR - 4	WOKR - 2	WHEN - 0	
	5170	30,860	WKBW - 13	WHEC - 3	WGR - 7	WBEN - 6
			WROC - 6	WOKR - 1		
	5179	(111,300)	WKBW - 53	WBEN - 52	WGR - 48	WHEC - 1
			WROC - 1	WOKR - 1	WNED - 0	
	5180	46,800	WKBW - 60	WBEN - 52	WGR - 46	WHEC - 15
			WROC - 15	WOKR - 6	WNED - 0	
	5190	191,290	WKBW - 49	WBEN - 45	WGR - 45	WHEC - 1
			WROC - 1	WNED - 0	WOKR - 1	
	5199	(2,341,050)	WKBW - 47	WBEN - 49	WGR - 43	WNED - 0
			WOKR - 0	WROC - 0	WHEC - 0	
	5200	2,165,380	WKBW - 45	WBEN - 48	WGR - 42	WNED - 0
			WOKR - 0	WHEC - 0	WROC - 0	
	5209	(64,500)	WKBW - 31	WBEN - 32	WGR - 25	WNED - 0
	5210	216,540	WKBW - 50	WBEN - 45	WGR - 38	WNED - 1
			WROC - 1			





<u>Prov.</u>	<u>BBM Area</u>	<u>Population</u>	<u>U.S. Stations and % Reach</u>			
Ont. (Cont'd)	5221	59,990	WKBW - 1	WBEN - 3	WGR - 1	
	5235	110,280	WKBW - 8	WBEN - 4	WGR - 5	
	5255	35,260	WBEN - 2	WGR - 2	WKBW - 0	
	5269	(478,570)	WKBW - 47	WBEN - 50	WGR - 45	WNED - 1
	5270	162,540	WKBW - 53	WBEN - 53	WGR - 47	WNED - 0
	5280	411,270	WKBW - 45	WBEN - 49	WGR - 44	
	5289	(116,930)	WKBW - 70	WBEN - 74	WGR - 68	WNED - 0
	5290	156,640	WKBW - 67	WBEN - 73	WGR - 64	WNED - 0
	5299	(62,370)	WKBW - 84	WBEN - 79	WGR - 75	WNED - 1
	5300	185,050	WKBW - 79	WBEN - 81	WGR - 73	WNED - 1
	5309	(61,530)	WKBW - 80	WBEN - 84	WGR - 76	WNED - 1
			WICU - 0			
	5310	30,660	WBEN - 77	WKBW - 61	WGR - 58	WICU - 7
			WNED - 0			
	5319	(64,630)	WBEN - 41	WKBW - 35	WGR - 31	WICU - 4
	5320	93,660	WBEN - 44	WKBW - 36	WGR - 33	WICU - 5
	5330	49,380	WICU - 61	WKBW - 43	WBEN - 38	WGR - 16
			WJET - 2	WSEE - 5		
	5339	(207,290)	WBEN - 25	WKBW - 19	WGR - 16	WNED - 0
	5340	233,960	WBEN - 33	WKBW - 25	WGR - 24	WSEE - 0
			WNED - 1			
	5350	77,970	WICU - 29	WKBW - 5	WBEN - 6	WSEE - 0
	5359	55,780	WBEN - 21	WKBW - 11	WGR - 19	WNED - 0
	5360	99,190	WBEN - 22	WKBW - 14	WGR - 18	WNED - 0
	5369	(222,300)	WICU - 2	WXYZ - 1	WEWS - 1	WSEE - 0
			WJBK - 1	WKYC - 1	WJW - 1	WWJ - 1
	5370	266,760	WICU - 2	WXYZ - 2	WEWS - 1	WJBK - 2
			WSEE - 0	WKYC - 1	WJW - 1	WWJ - 2
			WKBD - 0			
	5380	56,620	WICU - 31	WEWS - 7	WSEE - 2	WJW - 6
			WKYC - 4	WXYZ - 1	WJBK - 1	WWJ - 0
			WJET - 1			
	5389	(70,630)	WJBK - 54	WWJ - 54	WXYZ - 48	WKBD - 8
			WTVS - 1	WJRT - 0	WKYC - 0	WNEM - 0
	5390	111,570	WKBK - 59	WWJ - 59	WXYZ - 51	WKBD - 8
			WTVS - 1	WJRT - 0	WKYC - 0	WNEM - 0
	5399	(33,170)	WXYZ - 68	WWJ - 68	WJBK - 66	WKBD - 18
			WKYC - 2	WEWS - 3	WJW - 3	WXON - 1
			WTVS - 0			
	5400	98,570	WJBK - 65	WXYZ - 64	WWJ - 63	WKBD - 17
			WKYC - 13	WJW - 8	WEWS - 10	WTOL - 2
			WXON - 1	WJRT - 1	WTVS - 0	
	5409	(219,340)	WJBK - 81	WXYZ - 80	WWJ - 81	WKBD - 32
			WTOL - 5	WXON - 4	WTVS - 3	WSPD - 1
			WJRT - 0			
	5410	290,920	WJBK - 79	WXYZ - 79	WWJ - 80	WKBD - 33
			WTOL - 12	WSPD - 4	WXON - 5	WJW - 1
			WTVS - 2	WEWS - 1	WJRT - 1	WKYC - 0





<u>Prov.</u>	<u>BBM Area</u>	<u>Population</u>	<u>U.S. Stations and % Reach</u>
Ont. (Cont'd)	5420	60,870	WKBW - 1 WBEN - 1 WGR - 1 WICU - 1 WNED - 0
	5430	53,780	WJBK - 4 WXYZ - 2 WWJ - 2 WNEM - 1
	5440	42,070	WBEN - 1 WGR - 0 WWJ - 0
	5450	61,610	WBEN - 3 WGR - 1
	5460	25,950	WBEN - 0
	5470	73,420	WBEN - 2 WGR - 0
	5480	175,840	WWUP - 0
	5509	(79,010)	WWUP - 59 WJRT - 2 WTOM - 15 WNEM - 1 WWTV - 3 WKBD - 0
	5515	28,270	WWUP - 48 WTOM - 6 WWTV - 3 WJRT - 7 WNEM - 1
	5531	98,230	WWUP - 54 WJRT - 2 WTOM - 15 WNEM - 1 WLUC - 0 WWTV - 3 WKBD - 0
	5539	(99,940)	WDSM - 4 WLUC - 1 KDAL - 6
	5540	143,420	WDSM - 3 WLUC - 1 KDAL - 4
	5550	24,540	WDSM - 19 WDIO - 4 WIRT - 10 KDAL - 18 KCND - 1
	5561	33,540	WDSM - 4 KDAL - 0
	5562	19,640	WDSM - 12 KCND - 1
		7,079,600	

<u>Prov.</u>	<u>BBM Area</u>	<u>Population</u>	<u>U.S. Stations and % Reach</u>
Man.	6010	29,750	KCND - 55
	6020	33,460	KCND - 75 WDAZ - 5
	6035	32,350	KCND - 29 KXMC - 12 KMOT - 9 WDAZ - 3
	6050	31,810	KCND - 34
	6060	18,140	KCND - 21 QSAZ - 1
	6069	514,180	KCND - 53 KXJB - 1 WDAZ - 0 KTMJ - 0
	6080	28,910	KCND - 62
	6089	(29,250)	KXMC - 1
	6090	51,220	KCND - 7 KXMC - 0
	6125	39,670	KCND - 17
	6145	29,680	KCND - 4
	6185	28,290	KCND - 1
		837,460	

<u>Prov.</u>	<u>BBM Area</u>	<u>Population</u>	<u>U.S. Stations and % Reach</u>
Alta.	8010	37,130	KRTV - 7 KFBB - 7
	8019	(36,000)	KRTV - 1 KFBB - 0
	8020	79,610	KRTV - 3 KFBB - 2
		116,740	



<u>Prov.</u>	<u>BBM Area</u>	<u>Population</u>	<u>U.S. Stations and % Reach</u>		
Sask.	7010	37,630	KXMC - 6	KUMV - 1	KMOT - 10
	7020	30,500	KUMV - 4	KXMC - 1	
	7045	56,320	KRTV - 2	KFBB - 2	KOOK - 1
		124,450			



DUPLICATION OF PROGRAMS CAUSING 'BLACK OUT'  
 - NON-PRIME TIME IN TORONTO

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	Hours Blacked Out Per Day and Week							Total	% of Non Prime Time (1)
	Sat.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.		
<u>Buffalo Stations</u>									
S. Stations Blacked Out									
WGR - Buffalo Ch. 2	-	-	0.5	0.5	0.5	0.5	0.5	2.5	2.5%
WBEN - Buffalo Ch. 4	3.0	-	1.5	1.5	1.5	1.5	1.5	10.5	10.7
WKBW - Buffalo Ch. 7	<u>1.5</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1.5</u>	1.5
Total	4.5	-	2.0	2.0	2.0	2.0	2.0	14.5	4.9
<u>Toronto Stations</u>									
an. Stations "Causing" Black Out									
CBLT - Toronto Ch. 6	-	-	1.5	1.5	1.5	1.5	1.5	7.5	7.7
CFTO - Toronto Ch. 9	4.0	-	0.5	0.5	0.5	0.5	0.5	6.5	6.6
CHCH - Hamilton Ch. 11	<u>0.5</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>0.5</u>	0.5
Total	4.5	-	2.0	2.0	2.0	2.0	2.0	14.5	4.9

1) Non-Prime Time = 7:00 A.M. - 7:00 P.M. and 11:00 P.M. - 1:00 P.M.













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*We do not consider the findings of this study  
to be a specific buying tool but rather an aid  
to media strategy decisions.*

The data contained herein was commissioned  
from A. C. Nielsen Company Limited and  
Canadian Family Opinion Limited.





# THE EFFECTS OF CATV ON TELEVISION VIEWING

## Introduction

Although cable television has existed in Canada since 1952, it is only in recent years that its growth has started to accelerate.

In the last two years this growth has been quite phenomenal but it has at the same time been erratic, producing a wide range of household penetration across the country — 50% in Vancouver, 50% in Ottawa, 80% in London and 25% in Toronto and Montreal.

However, nationally cable now serves over one million households — approximately one in every four homes.

This one fact alone has led some advertisers and agencies to believe the viewing audience is fragmenting to the point that conventional television is being rendered ineffective and uneconomical as an advertising medium. A few believe that some stations are already unable to deliver adequate coverage of their markets.

THE OBJECTIVE OF THIS STUDY WAS TO TEST THE VALIDITY OF THIS CONCERN AND TO PROVIDE HARD INFORMATION WHERE NONE HAD BEEN AVAILABLE BEFORE.



## THE STUDY AREA

A basic requirement in selecting a market for study was that it have a high degree of cable penetration. Our choice was the home county of CFPL-TV, London, Ontario – Middlesex county. A number of factors combined to make this area ideally suited to our needs:

1. Cable television existed in the area before a local station, thus there was no novelty factor.
2. Middlesex county, currently served by three cable systems, has the highest degree of cable penetration in Canada among major markets and as far as we know, in North America as well.  
In the city of London, it is estimated that up to 80% of households subscribe to a cable service, while in the whole county area, both Nielsen and the Bureau of Broadcast Measurement estimate 60% of households are connected.
3. In addition to CFPL-TV no less than 20 other television stations have access to Middlesex County – 12 of them via cable and 8 off-air. (See appendix A)
4. There is a locally programmed cable channel that has been operated and heavily promoted for a number of years. It currently offers subscribers 35 hours of cable-cast programming each week.

These conditions are most severe. If cable television does affect the ability of a home market station to provide adequate coverage of its market, then it would have to be most pronounced in the London area.



## Appendix A

### MIDDLESEX COUNTY TV STATIONS PENETRATING MARKET

*Home Station: CFPL-TV, London*

Off-Air		Via Cable	
Canadian		Canadian	
CKNX-TV	Wingham	CKCO-TV	Kitchener
CFTO-TV	Toronto	CHCH-TV	Hamilton-Toronto
CBLT-TV	Toronto	CKLW-TV	Windsor
U.S.		U.S.	
WBEN-TV	Buffalo	WKYC-TV	Cleveland
WGR-TV	Buffalo	WEWS-TV	Cleveland
WKBW-TV	Buffalo	WJW-TV	Cleveland
WTVS-TV	Detroit	WWJ-TV	Detroit
WJET-TV	Erie	WXYZ-TV	Detroit
		WKBD-TV	Detroit
		WJBK-TV	Detroit
		WICU-TV	Erie
		WSEE-TV	Erie

N.B.: The stations listed as penetrating Middlesex County off-air do not necessarily cover all TV homes in the country. Similarly some of the stations listed as penetrating via cable systems can also be viewed off-air by varying numbers of TV homes in the county. The home market station CFPL-TV covers all TV homes in the county regardless of the incidence of cable.





## METHOD

The study was conducted by A. C. Nielsen as part of their regular N.B.I. Report during November 1969.

In order to provide a sufficient number of cable and non-cable homes for valid projection purposes, the sample size was increased from 153 to 374, thus 223 cable and 151 non-cable homes were tabulated.

Due to the complexity of this study we have not presented the complete details of the results in this booklet. Instead the following pages contain the most significant points and the conclusions that can be drawn from them.

The complete findings are readily available to any advertiser or agency on request.

## THE CABLE VERSUS THE NON-CABLE HOME

Nielsen's tabulations showed there were no significant differences by normal reporting demographics between cable and non-cable homes. However we decided to probe further and get additional demographic data.

From their continuous London panel, Canadian Family Opinion reported some more noticeable differences.

They found that cable subscribers tend to be in the slightly higher income brackets. Also a slightly higher proportion of cable subscribers tend to be among the managerial, sales, service and communications occupations.

However, these differences were not significant enough to warrant consideration in marketing/advertising plans.



## H.U.T. LEVELS

An examination of the H.U.T. (Households using television) levels, Monday through Friday, showed that non-cable viewing peaks earlier and falls off earlier than cable.

This earlier peaking of non-cable viewing we attribute to the more effective local programming of the home station during the times it controls its own programming. This is locally oriented programming and popular American syndicated shows that non-cable homes cannot see at other times.

The fall-off in the evening is undoubtedly due to the appeal of national programs which follow on the home-station and over which they have no control, as compared to the greater variety of programming available to cable subscribers.

## AVERAGE QUARTER HOUR RATINGS

A comparison of the average quarter hour ratings on the home station between cable and non-cable viewing showed marked differences.

With the exception of the late news, non-cable viewing is double that of cable viewing. During national program times it is more than double.



## TOTAL VIEWING TO ALL STATIONS

We next examined the average quarter hour, Monday through Friday, viewing to all stations penetrating Middlesex county in three ways.

### 1. Among Non-cable TV Homes

Essentially this showed the performance of the home station without cable in the market. As was expected the home station was very dominant, capturing better than 75% of the available audience at any given time.

### 2. Among Cable TV Homes

The rating dispersion with cable in the market represents the widest possible choice of programming in North America.

At any given time about 50% of the audience is reached by the home station, a CBC affiliate, supplemented by the neighbouring CTV station. This audience is divided equally between the two during national program times, while during selective time the home station dominates.

### 3. Among Total TV Homes

Since advertisers don't buy cable or non-cable homes, but total market, the only meaningful picture is the rating dispersion among total TV homes.

The home station dominates, delivering on the average about 50% of the available audience at any given time. Its audience share is lowest during national program times.

The remaining audience is divided among 20 other stations, with the largest single share going to the neighbouring CTV station.

From this it is quite apparent that it is uneconomical and unnecessary to buy more than the home station for local market coverage. Regional marketing practices would have to take into consideration the supplementary benefits in Middlesex county of purchases on the neighbouring CTV station.



## AVERAGE DAILY REACH

We next examined the average daily reach and hours viewed, Monday through Sunday among the 47,000 cable and 31,000 non-cable homes in Middlesex county.

		<i>Average Daily Homes Reached</i>	<i>% Reach</i>	<i>Hours Tuned</i>
A. All TV stations (20)	Cable homes	43,000	91.5	5 hrs 07 mins
	Non-cable homes	28,000	89.5	4 hrs 41 mins
	Total TV homes	71,000	90.7	4 hrs 54 mins
B. All U.S. stations (13)	Cable homes	36,300	77.2	2 hrs 31 mins
	Non-cable homes	3,600	11.5	0 hrs 16 mins
	Total TV homes	39,900	51.0	1 hr 47 mins
C. All Canadian stations ( 7)	Cable homes	39,700	84.5	2 hrs 35 mins
	Non-cable homes	27,600	88.2	4 hrs 24 mins
	Total TV homes	67,300	86.0	3 hrs 19 mins
D. All Canadian stations less Home Market station ( 6)	Cable homes	27,200	57.9	1 hr 05 mins
	Non-cable homes	10,000	31.9	0 hrs 43 mins
	Total TV homes	37,000	47.5	0 hrs 56 mins
E. Home Market station	Cable homes	34,000	72.3	1 hr 29 mins
	Non-cable homes	26,900	85.9	3 hrs 41 mins
	Total TV homes	60,900	77.8	2 hrs 22 mins

From these figures we can see the Canadian stations retain their share of the cable homes with 84.5% and dominate the non-cable with 88.2%. The home station gets a very large share of total homes on the average day with a total reach of 78.0% and average viewing of nearly two and one-half hours a day.

Bear in mind that this is in competition with 20 other television stations penetrating the market.





## CUMULATIVE REACH

Since advertisers buy their schedules on a weekly basis we looked at the cumulative or weekly reach of the home station in comparison with the other 20 stations.

		<i>Weekly Reach</i>	<i>% Reached</i>
A. All TV stations	Cable homes	46,100	98.1
(20)	Non-cable homes	30,300	96.8
	Total TV homes	76,400	97.6
B. All U.S. stations	Cable homes	45,700	97.2
(13)	Non-cable homes	6,400	20.4
	Total TV homes	52,100	66.5
C. All Canadian stations	Cable homes	46,100	98.1
( 7)	Non-cable homes	30,300	96.8
	Total TV homes	76,300	97.6
D. All Canadian stations	Cable homes	43,800	93.2
less Home Market station	Non-cable homes	17,900	57.2
( 6)	Total TV homes	61,700	78.8
E. Home Market station	Cable homes	45,100	96.0
	Non-cable homes	30,300	96.8
	Total TV homes	75,400	96.3

In terms of reach, the home station performs as well as all other stations combined, reaching 96% of cable homes and almost 97% of non-cable homes.



## IMPRESSIONS

To assess the quantity of coverage achieved by the home market station we translated the reach into impressions — an impression being one home watching one quarter-hour of programming once.

We first looked at the distribution of impressions during the entire week and then at two specific time blocks — 6:00 to 8:00 p.m. and 8:00 to 10:00 p.m.

		<i>% Impr. Cable Homes</i>	<i>% Impr. Non-Cable Homes</i>	<i>% Impr. Total TV Homes</i>
A. Complete Week	All U.S. stations	49.5	5.6	32.8
	All Canadian stations	50.5	94.4	67.2
	Home market station	29.1	78.8	48.0
B. 8:00 — 10:00 p.m. (Mon - Sun)	All U.S. stations	48.1	6.1	32.3
	All Canadian stations	51.9	93.9	67.7
	Home market station	24.8	71.7	42.5
C. 6:00 - 8:00 p.m. (Mon — Fri)	All U.S. stations	34.8	3.0	21.3
	All Canadian stations	65.2	97.0	78.7
	Home market station	39.8	84.9	58.9

Across the span of one week, the home market station delivers 29.1% of all impressions to cable TV homes, 78.8% to non-cable homes and 48% to the total TV homes in Middlesex county.

During this period all the Canadian stations combined deliver fractionally over half the impressions to the cable TV homes and over two-thirds to the total TV homes, while completely dominating the non-cable TV homes.

In the 8:00 to 10:00 p.m. national programming period, the impressions delivered by the home market station decline among all home types. However the delivery of all Canadian stations in total remains approximately the same.



When the home market station has control over its own program content (6:00 — 8:00 p.m.), its impression delivery rises considerably among both TV homes types and quite markedly among cable TV homes. As a result, the impression delivery of all Canadian TV stations increases.

Thus the home market station is far more competitive when it has freedom to schedule programs to its own market.

### DAYPART REACH

In examining the patterns of average daily, five day cumulative and seven day cumulative reach of the home market station by nine dayparts among cable, non-cable and total TV homes, distinct differences emerge.

As would be anticipated, among non-cable TV homes the pattern follows a typical single channel market build-up, with high average daily reach figures building to near maximum potential cumulative figures.

Among cable TV homes the average daily reach figures are substantially lower. However the seven day cumulative reach obtained by the home market station averages only about 25% lower, indicating a higher degree of dial switching to the station.

The pattern emerging among all TV homes in the market approximates that of a station in a two station market circumstance.

Among all TV homes the home market station delivers more than 90% reach over a five day period and a minimum of 96% over seven days.



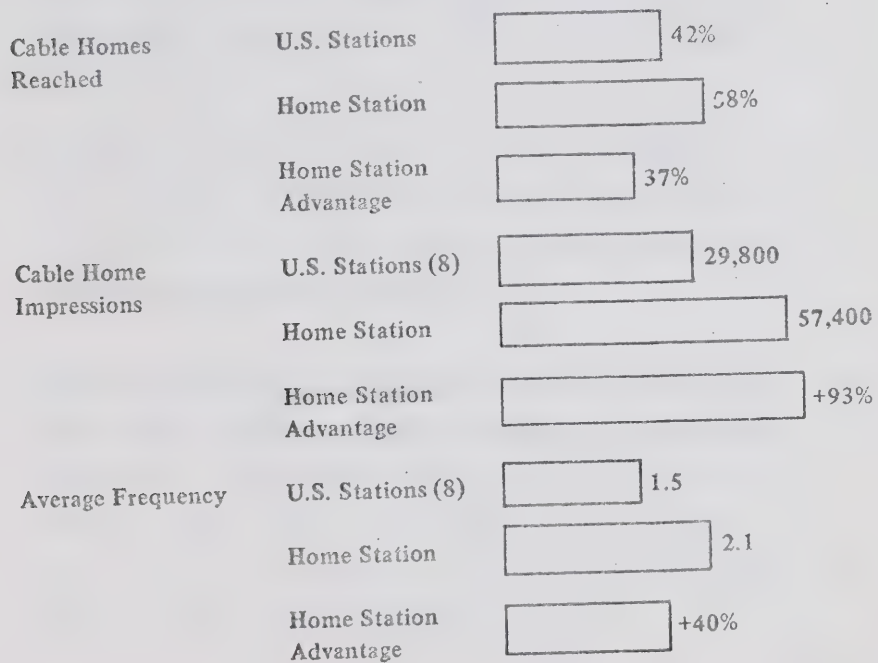


## STATION LOYALTY

In comparing the reach effectiveness among cable TV homes of the eight programs carried simultaneously by the home market station and eight other stations penetrating the market, it was found that 37% more reach was generated by the home market station, with 93% more impressions and a 40% better average frequency.

While undoubtedly lead-in programs were an influencing factor, this large advantage does tend to indicate that the cable subscriber would prefer to do his viewing to the home market station when all other factors are equal.

(Eight programs on Home TV station, twenty-three programs on eight U.S. TV stations).





## CONCLUSIONS

1. The presence of cable television in a market did not significantly affect the capability of the home market station to provide advertisers with total coverage of its market.
2. The study showed that those homes lost to the home station as a result of cable are partially recovered by other Canadian stations.

Since the trend is for advertisers to evaluate and purchase television on a regional basis an advertiser buying the home market station would often be buying those neighbouring stations.

3. Due to the greater degree of channel switching among cable subscribers, the reach of most schedules purchased on the home market station among cable TV homes will be higher than usually anticipated.
4. Highly significant in the results of this study is the fact that we were unable to find any viewing of measurable proportions to the locally programmed cable channel. We would conclude therefore that cable originated programming cannot be considered a media factor for any advertiser at least in the foreseeable future.



While there will obviously be market to market differences, we believe that the results of this study have a definite application in Canada-wide media strategy decisions.

Any advertiser or agency who has not seen the complete study can arrange for a presentation by contacting TvB Canada at 500 University Avenue, Toronto 2. Telephone (416) 363-3133.



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# CABLE TELEVISION: OPPORTUNITIES AND PROBLEMS IN LOCAL PROGRAM ORIGINATION

N. E. Feldman

A Report prepared for  
THE FORD FOUNDATION



## PREFACE

This report was written under a Ford Foundation grant to The Rand Corporation for a year-long investigative study of cable television distribution and its possible impact on the evolution of the television industry.

The report is primarily intended to provide useful information to the Federal Communications Commission in its deliberations on the role of community antenna television (CATV) systems. In addition, the report has been arranged not only to convey the experiences of others to those CATV operators faced with the FCC ruling that systems of a certain size must originate programming in 1971 but also to guide community groups who may wish to originate programming over a channel on their local CATV system. The subject of local origination is of particular importance because of its unique potential for improving communication within the community and thus for focusing attention on community problems.

This is the third in a series of Rand reports dealing with the future of CATV under the grant from The Ford Foundation. The two previous studies were *The Future of Cable Television: Some Problems of Federal Regulation*, RM-6199-FF, January 1970, and *Cable Television: The Problem of Local Monopoly*, RM-6309-FF, May 1970.





## SUMMARY

Over-the-air broadcast television is limited to a few channels in each metropolitan area because of such factors as the present frequency allocation for television broadcasting, the competing demands for radio spectrum, the way in which technical standards for TV broadcasting have evolved, and the large consumer investment in television receivers. To carry a program of purely local interest with limited audience appeal requires that the broadcast station forego the higher profits of the mass audience programming that otherwise could have been presented.

On the other hand, cable television (CATV) has enough channels to carry both kinds of programming simultaneously and thus has a greater potential for offering programming to meet local community needs. Moreover, while the program on a broadcasting station is necessarily transmitted over a wide area encompassing many hundreds of square miles, CATV signals can be directed to small geographical areas, which permits the program originator to pinpoint the particular audience he seeks.

Recognizing this potential, the Federal Communications Commission has recently ruled that all cable systems having more than 3500 subscribers must originate programming "to a significant extent" by April 1, 1971. However, this ruling raises many questions concerning how extensively this potential of local programming can in fact be realized, either with or without federal regulation. Such factors as the costs of local programming, the requirements for talent and organization, and the appeal of such programming are of basic importance.

The purpose of this report is to discuss these factors in detail by examining and evaluating past CATV experience with local origination in three quite different settings: (1) Canada, particularly with respect to the two CATV systems in Montreal, which are among the largest in the world; (2) Dale City, Virginia (a relatively isolated suburb of Washington, D.C.), with grass-roots television originated by community groups over a small cable system serving a single tract of homes; and (3) Lakewood, Ohio (a nearby suburb of Cleveland), with a small CATV system originating a wide variety of material.

Several Canadian CATV systems (as in Vancouver and Montreal) are much larger than those in the United States, and those in Montreal have extensive experience in local program origination. One cable system in Montreal has accumulated about ten years of experience in programming a wide range of material for minority audiences scattered about the metropolitan areas. An impressive number of hours per week of local programming are produced for the local community channel, perhaps because the costs appear to be low relative to the amounts CATV companies typically spend for advertising, salesmen, and other promotion activities. Success in local origination is



due largely to the fact that the profitability of cable operations in Canadian cities is assured by their carrying signals highly attractive to the Canadian audience from U.S. broadcasting stations. Since local origination can easily be superimposed on a large and viable system, the benefits of origination need not be large in order to balance the modest costs entailed.

The case of Dale City, Virginia, is very different. The location of this relatively isolated suburb of Washington, D. C., does not assure good over-the-air reception. A cable system serving virtually all the homes in Dale City was installed by the builder of the tract along with all other underground utilities, and homeowners were billed a nominal monthly fee for the service. When a channel was made available for local origination by civic organizations, Dale City combined its strong interest in community affairs with a small amount of money to provide about one year of local programming with strong community appeal. However, the amount of money available was simply not sufficient to provide the quantity or quality of equipment required for sustained operation. Since it refused advertising and lacked other sources of revenue, Dale City Television, which operated the community channel, was forced to suspend local programming in early 1970.

The Lakewood, Ohio, case offers yet another contrast. This community is very close to Cleveland and thus to a number of local broadcasting stations. In order to be successful in a major metropolitan market where FCC regulation prohibits or discourages carrying signals from distant broadcasting stations, the cable system operator must depend on locally originated services on his cable (in addition to carrying the signals of the local broadcasting stations) to attract subscribers. The experiment with local origination in Lakewood was a failure simply because it was not possible to attract large numbers of subscribers by locally originated programming alone. The cable operator was not only faced with the strong competition from the well-developed, over-the-air service of good signal quality available in the Cleveland area, but was also handicapped by the lack of community spirit in Lakewood (unlike Dale City). Unlike his counterparts in both Canadian cities and Dale City, the Lakewood operator was not able to depend on importing distant signals to assure the profitability of the cable system.

In general, origination of programming on cable does serve a useful purpose and should be promoted as a matter of regulatory policy. The major problems of successful origination are frequently inadequate budgets, poor and unsuitable equipment, and difficulties in informing subscribers in a timely fashion of exactly what is to be presented. New sources of revenue, including advertising (now permitted by the FCC), and new kinds of low-cost equipment currently coming onto the market may make a substantial difference with respect to supply. However, with respect to demand—i.e., the *need* for local programming—the situation will vary greatly from one market to another. In relatively isolated Dale City, the need for local service is relatively large; in the Cleveland suburb of Lakewood, Ohio, the need appears much less; in large Canadian metropolitan areas containing many minority audiences with varying tastes, the needs and opportunities again appear substantial. Whatever federal, state, or local regulatory policies are adopted to promote or require local origination, the variability in individual needs and the opportunities afforded by the wide range of local settings will have to be taken into account.



Perhaps the most salient conclusions of the present study are that (1) the cost of producing local live programming is only a tiny fraction of that typically associated with conventional commercial broadcasts, (2) the audience appeal of community-oriented programming can at times be high, (3) the number of hours per week generated by local volunteer groups is likely to be small, ranging from only one or a few hours per week to (at most) enough to fill one full-time channel, and (4) to be economically viable, cable television systems must carry signals from at least local stations, and from distant broadcast stations in the urban areas, since there is no evidence that local program origination by itself will attract enough subscribers to make CATV systems profitable investments.





## ACKNOWLEDGMENTS

The author is indebted to Leland L. Johnson, a senior economist at Rand and the director of communication studies under the Ford Foundation grant, for suggesting this study on local origination, providing encouragement and the greatest possible freedom in the approach to the subject, and making numerous helpful comments.

In addition, the final draft benefitted from the comments of Rudy Bretz of Rand and J. M. Goldsen, Executive Director and Assistant to the Provost, Concilium on International and Area Studies of Yale University.





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## I. INTRODUCTION

Until now the basic service offered by cable television (CATV) has consisted of bringing to the home viewer signals of local and distant broadcasting stations. Today more than four million subscribers in the United States pay a monthly fee (typically \$5.00) for CATV's improved signals from the local broadcasting stations, and for signals it provides from distant broadcasting stations that otherwise could not be received at all. In addition to carrying broadcasting signals, an increasing number of cable operators are now originating their own programming, although in many cases this consists only of the so-called automatic services such as time, weather, and stock market quotations. Some cable operators use videotape or film equipment feeding directly into the cable in order to offer nationally syndicated programming; other systems provide coverage of local live (or prerecorded) events either by the cable operator himself or by others with direct access to his cable system.

Because of the many channels that can be made available over CATV, much interest is currently being expressed about the possibilities for programming to meet local, specialized needs in a manner entirely infeasible with conventional broadcast. Among the possibilities frequently mentioned are instructional television for home and classroom; televising of local activities such as school board or city council meetings, community drama, civic events, or local sports; and informational and educational programming useful especially to low-income groups.

In this study, we shall be particularly concerned with locally produced programming, in contrast to "canned" materials brought in from the outside. Here we shall largely confine the term "local origination" to programming characterized by its *localism*: that is, by its concern with local issues, events, and people. By virtue of its many channels and confined geographical coverage, CATV can provide this localism and thus has a unique potential to become a new community service.<sup>1</sup>

In order to assess the opportunities and the problems of local origination, several contrasting examples were selected for this study. Considerable detail is included in footnotes and appendices to give the reader a better understanding of the many dimensions of organization and talent requirements and technical considerations. Section II describes and evaluates the extensive origination activities of several major metropolitan Canadian systems. Section III discusses the contrasting experience of Dale City, Virginia, and Section IV examines the yet different case of Lakewood, Ohio. Section V concludes with some observations about the future prospects for community program origination, the implications for government regulatory policy, and some thoughts about special uses for CATV in urban ghetto areas.

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<sup>1</sup>The new services that may be provided by the gamut of new communications technology may lead to significant social change. For a broad discussion see Herbert Goldhamer, *The Social Effects of Communication Technology*, The Rand Corporation, R-486-RSF, May 1970.





## II. THE EXPERIENCE OF METROPOLITAN CANADIAN SYSTEMS

Cable television is experiencing impressive growth in Canada. In part because of its ability to bring in the signals of U.S. broadcasting stations particularly network affiliates just across the border, more than half the homes in Vancouver and Victoria are wired for CATV, and heavy penetration is taking place in Montreal, Ottawa, Quebec, Toronto, and other cities. One of the largest single concentrations of subscribers—in excess of 100,000—is in Montreal. (In contrast, the largest concentration in the United States—in San Diego—encompasses about 45,000 subscribers.)

As in the United States, the Canadian systems are privately owned and operated. Those in metropolitan areas employ eight- to twelve-channel equipment. Typically, seven to ten channels are fed by signals from local and distant broadcasting stations and one is devoted to local program origination.

A notable feature of Canadian cable systems is their extensive experience in local origination. One system operating in a portion of Montreal has been originating programming for about ten years. Subscribers in Montreal have available from ten to twenty hours per week of new local programming, depending on their location within the city.

A number of questions immediately arise with respect to this experience: What is the motivation of the operators to originate programming? What is the nature of the programming and how is it controlled? What are the costs and the benefits? What role played by Canadian regulatory policy? In addressing these questions we shall examine in turn the following topics: (1) the regulatory framework, (2) the nature and control of programming, (3) its costs, and (4) the audience.

### THE REGULATORY FRAMEWORK

While the Canadian Radio Television Commission (CRTC) does not allow the importation of U.S. signals by microwave link, it places no restriction on the size or height of antennas used for receiving distant signals; thus large antenna arrays on towers are used by virtually all to import U.S. signals. Since most of the Canadian population lies in a narrow belt parallel to the U.S. border, some U.S. signals can be received with a simple indoor antenna. With CATV, all three U.S. networks can be received.

Limitations on the use of distant signals in Canada differ from those in the United States, where only under special circumstances have distant signals been permitted by the Federal Communications Commission within the hundred largest markets.<sup>1</sup> Rather, the CRTC has recently established a system of priorities which places Canadian network service ahead of local signals and a channel for local origination ahead of non-Canadian signals. This list of priorities, given in CRTC Decision 70-93, includes the following:<sup>2</sup>

- (a) CBC network service.
- (b) Canadian private network service.
- (c) Canadian B contour TV stations.
- (d) A channel for community programs.

<sup>1</sup>The nature of FCC restrictions on the use of distant signals is described by Leland L. Johnson, *The Future of Cable Television: Some Problems of Federal Regulation*, The Rand Corporation, RM-6199-FF, January 1970.

<sup>2</sup>April 10, 1970, p. 3. This list includes only one non-Canadian commercial station and one noncommercial station. If all nine priorities above are satisfied, then additional non-Canadian signals may be carried.



- (e) The Commission may require reception from additional Canadian stations which have program schedules that differ significantly from those offered by stations in categories (a) to (c).
- (f) Service from one non-Canadian commercial station.
- (g) Service from one non-Canadian noncommercial station.
- (h) If a system carries FM stations, it should carry all available Canadian FM stations in both official languages.
- (i) A CATV system may be required to carry, at the discretion of the CRTC, the signals of AM broadcast stations where they are needed because of special circumstances.

For our purposes it is notable that a channel for community programs (see item d above) is required before distant signals can be brought in. Thus, although not specifically required to originate local programming, the Canadian systems have little choice, since local origination is given higher priority by the CRTC than non-Canadian signals, and the non-Canadian signals are the primary attraction for CATV subscribers.

In the United States, cable systems are prohibited from carrying programs from distant stations on the same day that they are shown on local stations, in order to reduce the competitive threat to the local stations. It was only recently that the CRTC moved to similar restrictions with respect to programming originated by distant U.S. stations, as shown in the following extract:

The non-Canadian programs broadcast by Canadian broadcasting stations serving the area shall not be duplicated on a CATV system simultaneously or during the week prior to and the week subsequent to the date of airing on the Canadian stations unless specifically authorized by the Commission.<sup>3</sup>

In general, restrictions on the use of distant signals in the United States have been motivated by concern with audience fragmentation, which would

further impair the economic viability of the independent TV stations, particularly the UHF stations. In Canada, however, there were no UHF TV stations before 1969; thus the restrictions reflect concern about both the penetration of U.S. culture and the dominating influence of U.S. advertisers<sup>4</sup> in Canadian markets. In Canada, the problem for local broadcasters is not simply distant signals, but distant *foreign* signals with strong audience appeal.

Even aside from the problem of distant signals, the CRTC has been concerned about the competitive threat to local broadcasters posed by CATV. In order to avoid fragmenting the advertising market available to local broadcasters, the CRTC does not permit the cable operator to sell advertising on his own origination channel. (Some exceptions may be permitted where small advertisers lack alternative media in the local area.) Furthermore, the commission looks with disfavor on any cable programming that is highly competitive with that of the broadcasters, as shown in the following extract:

The Commission pointed out in its announcement of May 13, 1969, that CATV local programming should complement, rather than compete with, programming already available to the community. It placed particular emphasis on the opportunity for CATV licensees to enrich community life by fostering communication among individuals and community groups. In the development of programs of interest to communities, it is the hope that CATV programmers will be motivated by innovation rather than imitation. Local programs should be based on access and freedom from the restraint of program schedules which are often less flexible in conventional broadcasting.<sup>5</sup>

## PROGRAMMING CONTENT AND CONTROL

As noted earlier, several Canadian systems have already had extensive experience in program origi-

<sup>4</sup>U.S. commercials are not deleted on Canadian CATV systems.

<sup>3</sup>"Guidelines for Applicants Regarding Licences to Carry On CATV Undertakings," *Public Announcement*, CRTC, Ottawa, April 10, 1970, Item 5, p. 3.

<sup>5</sup>"Guidelines for Applicants Regarding Licences to Carry On CATV Undertakings," *Public Announcement*, CRTC, Ottawa, April 10, 1970, p. 2.





ion. Since many of their programs run for only a quarter to a half hour, the total number of programs a week varies from about twenty to sixty. Typically five to ten persons appear on each program; in a single week as many as a hundred to five hundred persons appear in some way on the local origination channel of each system. The following is a list of the strikingly wide variety of programming offered on one or more of the three largest cable systems in Canada; it may serve as a guide to other cable systems now facing the prospect of producing local origination programming.

Professional sports such as hockey, boxing, and football blacked out locally. (A major league baseball team volunteered for a series of programs in which players interviewed one another and ballpark personnel.) Pee-wee and semiprofessional games have also been presented, as well as college games blacked out locally.

Activities of service organizations (e.g., Kiwanis, Red Feather, and Rotary Clubs).

Kindergarten shows arranged to entertain and educate preschool children.

Women's programs: fashion shows, modeling tips, beauty hints, etc. (Contributing merchants are mentioned in credits.)

General homemaking advice for women.

Knitting and weaving instruction.

Home furnishing and interior decorating for the low-budget housewife.

Swap-shop programs (individuals call the station with items for sale, and viewers call the sellers directly).

Calisthenics and physical culture (largely for women).

Home first aid taught by an organization similar to the American Red Cross. (There are also other medical programs: For example, a program on cancer brought together various researchers to discuss the need for early diagnosis, improvements in the percentage cured, and new types of treatment.)

Career guidance for women, including job and schooling opportunities.

Animal care, given by a veterinarian.

Gardening.

University programs, focusing on special cam-

pus problems, discoveries, or research, presented by students, faculty, and administration. Includes general university information; drama and poetry readings; panel shows; discussion of issues such as academic freedom and community relations. (Where there is a closed-circuit television distribution system on campus, the programs have been shown during the day for the students and again in the evening for the general public.)

- Discussion of books with popular authors.
- Information on local recreational opportunities—movies, theaters, places to visit, etc.
- Concerts and variety shows (amateur, semi-professional, and professional).
- Popular music programs.
- Language lessons.
- Public speaking.
- Travelogue series. (There has also been a series of programs on separate countries, presented by a commercial counselor or delegate of the country.)
- Tax-return advice (often in phone-in question-and-answer format).
- Continuing education and trade counseling for teen-age dropouts and adults.
- Talks by police on highway driving safety, regulations, and automobile maintenance advice. (On one program, a document expert discussed how to recognize counterfeit \$10 and \$20 bills.)
- Discussions of drug use and abuse.
- Interviews with members of Alcoholics Anonymous, Smokers Anonymous, Weight Watchers, Gamblers Anonymous, and ex-prisoners.
- Automobile maintenance information.
- Information on the use and care of snowmobiles.
- Photography and cinematography instruction.
- Instruction in buying and caring for guns.
- Coverage of the industrial and business growth of the community, with an analysis of ensuing sociological changes.
- Programs sponsored by religious groups.
- Talks by members of the fire department on fire prevention and safety.
- A weekly half- or one-hour videotaped guided tour of the local art gallery (mobile equipment with a zoom lens, lights, camera, and videotape



recorder is used to show both broad views and important details).

- Foreign-language news programs for minority groups.
- Foreign-language programs providing assistance to immigrants (frequently including interviews with successful immigrants).

A series runs for several months at about one-half to one hour per week. Some series have been produced once, while others have been running continuously for many years. Except for the university programs<sup>6</sup> produced by students, all programming is produced by the CATV system staff and presented without rehearsals. New performers on a series, however, are auditioned and approved.

It is notable that the demand to put on new series of shows far exceeds the time which the cable operators wish to make available. One system surveyed has a backlog of ten to fifteen requests, some of which include detailed proposals. These requests are for more than mere channel time, since each would necessitate joint planning and the utilization of the cable system's staff and production facilities for origination.

In view of the numerous requests for access to the cable, questions arise as to who decides which requests are to be accepted and which are to be rejected and as to the grounds underlying the selection process. With respect to the first, it appears that the cable operator himself is the regulator; he sees it as his responsibility to protect his subscribers from duplicate material (or even the merely dull) on his local origination channel. Such control is viewed by the operator as necessary and neither arbitrary nor capricious.

With respect to the second question, the grounds for selection are various: There is reluctance to compete directly with the broadcasters (in accordance

with CRTC policy mentioned earlier) and yet there is a desire for material sufficiently appealing to attract new subscribers, or at least to generate good will and enhance public relations.

As one example, the fear of appearing to compete with the broadcasters led one of the systems surveyed here to present news programs in foreign languages only. Local variety acts and independent news programming in the local vernacular have been turned down on grounds that they duplicate current broadcast fare, which apparently applies even to the presentation of news at the time of day when there is no other news available on television.

In general, the CATV systems avoid politics and issues of a highly controversial nature.<sup>7</sup> Near election time, however, equal time (of equal value) is given to all parties. In theory, more issues of strong community interest would be covered if the CATV operators believed they could locate equally strong representatives of the opposing points of view. In practice, they fear the charges of bias that might be leveled against them if one of the proponents had a more dominant or more pleasing personality than the other. In the operator's mind, such accusations would defeat the purpose of local programming, i.e., adding new subscribers or promoting better public relations.

In addition, problems have arisen with respect to offering sports and selling local advertising in competition with local broadcasters. Before the CRTC forbade the selling of advertising by cable systems in May 1969, one system in the survey experimented with local advertising presented between the breaks of sports events blacked out locally. Local sports (hockey, boxing, and football) blacked out for over-the-air broadcasting were made available for cablecasting because the sports promoters felt this would not threaten their gate receipts (at the time these arrangements were concluded, the cable system had few subscribers). In addition, the offering was made less attractive to fans because the cablecasting of the early part of the games was not permitted.

At first, advertising largely recouped the costs, and the sports programming both helped to maintain subscriber interest and brought in many new

<sup>6</sup>All of these programs relate to general public relations rather than to formal instruction. They are not even part of planned efforts at continuing education. Although a major university can be a rich source of programming material for local origination, no systematic use of this source has been undertaken by any Canadian cable system, nor are there any CRTC regulations specifically encouraging—much less requiring—the exploitation of this material. For a brief treatment of the potential role of cable TV for both formal and informal instruction, including continuing education, see N. E. Feldman, "A Scenario for the Future of Cable Television Distribution," *1970 IEEE International Convention Digest*, pp. 76-77.

<sup>7</sup>Rare exceptions are programs covering such subjects as birth control and tax reform proposals.





subscribers. On the basis of new-subscriber cost,<sup>8</sup> enough new subscribers were added initially to justify the cost of the sports program solely on this basis, since the cost for a season's games was approximately \$1 per subscriber per sport.<sup>9</sup>

Several factors altered the situation. Sale of advertising tended to be reduced or discontinued long before the CRTC ban in 1969; some system owners became concerned about their competition with TV broadcasters arousing the ire of the Canadian government and voluntarily chose to eliminate advertising. The Canadian Cable Television Association (CCTA) and its predecessor, the National Community Antenna Television Association (NCATA), are reported to have held that cable systems were merely giant master antenna systems, and they tried to discourage their members both from origination and from the sale of advertising. (The CCTA apparently has recently changed its position.)

Each year some sports clubs raised the price of their contracts with the cable systems. When the weather was just slightly bad, gate receipts for the outdoor sports fell appreciably. The promoters, assuming that cable distribution was diminishing the gate receipts, sought compensation through higher contract prices. As a result of factors such as unfavorable government policy, CATV association attitudes, and higher costs for a season's sports programs (without the offsetting revenue of local advertising), the presentation of blacked-out local sports was discontinued. Some subscribers complained regularly throughout the next season, but they amounted to only a few percent of the total. No more than a negligible number of subscriptions were canceled as a direct consequence of eliminating this programming.<sup>10</sup>

<sup>8</sup>The prorated cost of all advertising and sales force expenditures per additional subscriber lies between \$10 and \$20.

<sup>9</sup>Because of the proprietary nature of some of the material dealing with the Canadian systems, the specific cable systems are not identified.

<sup>10</sup>A major handicap in presenting blacked-out local sports is the lack of proper mobile equipment. Since some of the universities did not charge CATV operators for their blacked-out local games (there is no charge for pee-wee and semiprofessional games), the only problems were the cost and inconvenience of moving and operating the studio equipment. In addition, real-time distribution required a microwave link to the head end. Canadian estimates for a good, fully equipped, black-and-white mobile van are about \$50,000 to \$100,000. The largest systems have tended to concentrate on studio equipment and to neglect mobile equipment; no system surveyed was adequately provided with both kinds of equipment.

## CLOSED-CIRCUIT FM RADIO

One of the most important innovations in Canadian cable systems is the carriage of closed-circuit FM radio signals. In addition to the FM radio stations provided on the cable as a subscriber service, one CATV system provides three additional FM stations. Two of the three have no broadcast license, and all three have no broadcast transmitter; they are available only on the cable. Each of these closed-circuit FM radio stations caters to a single racial, religious, or cultural minority group. The total number of households within the urban area identified with the group may be as large as 50,000 or as small as 5000. Some fraction of these are potential subscribers to the CATV system. These stations transmit on regular but differing schedules; some operate for only four hours per day, others as much as eight to twelve hours per day.

The cable system surveyed makes no charge for this service, since (according to CRTC regulations) cable operators are allowed to accept fees only from subscribers. The closed-circuit FM radio operator is unregulated. He sells advertising to his minority group shopkeepers and pockets the proceeds (he is not permitted to share these revenues with the CATV operator). His total equipment need consist only of a record player and a stack of suitable records (donated by a local record shop), a microphone, and a telephone line to the head end of the cable system. His office need not be much larger than the record player. It is illegal for the closed-circuit FM radio station operator to pay the CATV system operator; he can only remind his listeners that they hear him by virtue of their subscription to cable TV and the munificence of the system operator. In addition to having rendered a public service, the CATV operator is rewarded by increased penetration in minority areas. These stations cover births, weddings, and deaths, the visits of notables to the minority community, charity drive appeals for funds, and all other minority community activities. It can truly be said that they provide local news coverage. In general, the closed-circuit FM radio stations appear to be providing an important service—one which should be extended. It is difficult to conceive of a lower-cost operation. Its expansion would seem to be solely limited by the fact that a typical FM home radio has sufficient selectivity only to accommodate about fifty such FM stations. Thus a cable TV system



could only provide fifty channels per cable in the standard 88- to 108-MHz FM broadcast band.

## THE MECHANICS OF LOCAL ORIGINATION

Use of videotaping and delayed playback varies considerably among cable systems. One system in Montreal presents nearly all programming live; almost nothing is taped, and therefore little is repeated. The other system in Montreal tapes almost everything and presents few real-time live performances—even though the tapes are not edited. The choice tends to be more a function of scheduling convenience than of cost, since the tapes are not edited and not saved.<sup>11</sup> Since each tape may be reused for recording new programs at least fifty times, the videotape adds little to overall costs.

Programs are shot in each system's studio (only one of the Canadian systems surveyed here has more than one studio). Although discussions are held before going on camera, there are no formal rehearsals. Live programs are either 25 or 55 minutes long, which allows 5 minutes for changing over for the next show. Preparation for the next show takes place on one side of the studio while a show is in progress on the other side. The 5-minute intermission between programs is particularly necessary for moving the large cameras across the studio and maneuvering them into position. During this time, either the weather board or a card giving details on the next show is scanned to the accompaniment of an FM music background.

The cameramen can operate all studio and control room equipment, including the control room console. In systems with much live origination, they cycle between the different cameras and the control room every hour. It is claimed that they develop better camera technique by alternating and by spending time watching the monitors, operating the control console, handling the switching between cameras, and directing the cameramen over the intercommunication system.

Cable systems have worked with university student groups in producing programs. In one case, the students were trained to handle all the equipment

and to do all of the work themselves. Since the students are trained during evenings or on weekends, and since a new group must be trained each year, the direct labor costs are considered high by the CATV system operator.

The permanent staff assigned to origination is small. The largest staff consists of a technical or studio director who also functions as a production manager or producer, two full-time cameramen, a chief technician responsible for video and audio quality and the control room, and one helper. Cameramen and helpers are frequently CATV service men who happen to be available, particularly for live origination outside the regular forty-hour week. Full-time cameramen are occasionally graduates of a two-year training course in broadcast technology, but more often they are recent high school graduates who are trained on the job. With a single staff, cumulative time directed to origination is limited to less than forty hours per week. It would require almost three full staffs to originate from 8 a.m. to midnight seven days a week. Even the largest Canadian cable systems do not fill their origination channels for as much as forty hours per week.

## COSTS

Generally, the Canadian CATV systems surveyed here do not pay talent fees; although some do not even pay incidental expenses, others pay from \$5 to \$10. Those who appear on the programs are motivated by the desire for experience and exposure. All in all, the per-hour labor costs (including cameramen, technicians, directors, and whatever small incidental reimbursements are involved) run from about \$15 to more than \$100 per hour. Among the systems surveyed here, direct expenditures for all origination varies from \$40,000 to \$60,000 per year excluding capital investment. The yearly average costs for local live origination (whether or not videotaped for delayed playback) vary between \$25 and \$50 per hour for the systems surveyed. Thus the budget for ten hours of live origination per week lies between \$13,000 and \$26,000 per year for the direct costs.

In addition to these direct labor costs, there is advertising and overhead. (For such items, only the *additional* expenditure required for local origination is of concern here.) The total investment in stu-

<sup>11</sup>They are replayed a few times at most over an interval of a few weeks.





dio facilities—electronic and lighting equipment and sets and their furnishings—amounts to about \$100,000 in each of the cases studied.<sup>12</sup> The studios are equipped for black and white only. Besides the studio-quality film chains, the equipment includes slide projectors, an optical multiplexer (a device which uses mirrors to focus three different projectors or program sources onto one camera), one or more image orthicon or vidicon cameras, dollies for the cameras, and multiple TV monitors in the studio and in the control room. All the equipment can be remotely controlled. The lighting systems and studio sets are homemade. (Due to Canadian import duties, the same equipment would probably have cost 40 percent less in the United States.)

Taking all these elements together and amortizing the capital investment over ten years, the total cost of ten hours of programming per week is estimated at no more than \$25,000 to \$52,000 per year (or twice the direct labor cost). This figure is small with respect to both conventional broadcast costs and the costs incurred by cable systems for salesmen, advertising, and other promotion. Of the systems surveyed, total yearly expenditures for the sales operation range from \$100,000 to \$600,000, many times as much as is spent on origination. The minimum costs for local origination on noncommercial TV broadcast stations in the United States are about \$3000 for one hour.<sup>13</sup> Our estimate suggests that Canadian cable operators can generate ten to thirty hours per week of new local live programming at an hourly cost of no more than 2 to 4 percent of this figure. To be sure, the final product is not the same, but the ratio is impressive nonetheless.

<sup>12</sup>This estimate covers the cumulative capital expenditure over a period of ten years for two of the three systems surveyed here, but for the third system it is the current expenditure to equip a new facility.

<sup>13</sup>*Public Television, A Program for Action*, The Report of the Carnegie Commission on Educational Television, Bantam Books, Inc., New York, January 1967, Table 22, p. 191.

A brief reference to even lower-cost programming appears on p. 24 of the Carnegie report, but no further mention is made of this type of programming: "Finally, the local stations produce programs for purely local use. These are usually produced at extremely low cost, using station equipment and station staff and with limitations of a few tens of dollars in out-of-pocket cost for each hour of programming." Neither the extent of such production nor its potential was examined in the report.

## AUDIENCE

None of the systems examined here has carried out a survey of subscribers to determine how many watch the local-origination channel, since none of them consider it worth the cost.<sup>14</sup> Their estimates are that about 20 percent of all subscribers watch the channel at some time, and that, among immigrants, 40 to 70 percent watch the news programs in their mother tongue or listen to the closed-circuit FM radio stations in their native language (no similar programs are made available by broadcast TV or FM radio stations). No system has a measure of how many subscribers check the weather board before turning the TV set off at night. Weather news and information on the origination channel's schedule are frequently the only TV programming available on any channel during the early morning hours. Televised disc jockey shows typically handle more than a hundred calls per hour for a one-hour show; this is about the only direct measure of audience.

## CONCLUDING REMARKS

From the foregoing discussion, several points emerge to help answer the questions posed at the opening of this section dealing with the Canadian experience:

1. The cable operator's primary motivation for local origination appears to be the desire to build good community relations and to offer an additional service that may attract subscribers. With the priority recently established by the CRTC for a "community channel," additional cable systems would begin to originate simply as a necessary means to maintain the right to carry a number of signals from non-Canadian broadcasting stations. However, in the CRTC's system of priorities neither the quality nor the quantity of local origination is specified;

<sup>14</sup>One might speculate that the CATV operators do not make audience surveys for fear that knowledge of the disparity between their origination-channel audience and that of a local broadcaster would discourage volunteer performers. However, this is probably not a factor. Even if the audience on the local-origination channel of the systems surveyed here were only 1 to 3 percent of subscribers, the number of households would range from 400 to 4500—adequate to fill a good-sized auditorium and therefore probably adequate to attract performers.





therefore, the CATV operator has a wide range of options open to him.

2. The benefits to the viewer of the programming described above cannot be satisfactorily quantified. Certainly it is minority audience programming, appealing to a narrower set of tastes than is customary. In this respect, the desire of cable operators to avoid programming similar to that on broadcast TV for fear of competition seems unfortunate. For example, by avoiding the presentation of local news and issues in the vernacular, Canadian CATV systems devitalize the content of their local-origination material and nullify the social and political value of the local programming. To be sure, it is important that cable offer material of a sort quite different from that of broadcast stations. The CRTC statement mentioned earlier, directing that cable programming be motivated "by innovation rather than imitation," seems in some respects well taken. At the same time, this policy provides a loophole that cable operators may employ to avoid controversial but socially significant programming that might be construed as competitive with conventional broadcast fare. In this respect, it is notable that cable operators have done little, in terms of publicity or other promotional efforts, to draw attention to their local origination; such behavior suggests the desire to avoid annoying the CRTC by successfully fragmenting the audience or the hope of placating the broadcasters by minimizing competition. It suggests that even in the absence of regulatory prohibitions,<sup>15</sup> an unfavorable attitude by a regulatory body can produce inhibitory effects on CATV operators.

3. The costs of the local-origination programming are low in comparison with such costs in either commercial or noncommercial broadcasting in the United States. Nevertheless, further cost reduction may be possible. Even those systems originating up to thirty hours per week of new local material do not exploit it adequately. If this programming were re-

peated several times per week on a regular schedule, e.g., by using videotape, it should be possible to reach a larger audience at low cost. If cycled through other CATV systems, the best of this programming should draw a significant audience. No mechanism for distributing this material exists at present. Personnel costs are the largest single deterrent to extensive repetition of local-origination programming. If reliable, automatic, long-playing video equipment of high signal quality were available for less than \$5000 per channel, it would facilitate replaying of local programming. Having the capability for unattended operation for up to three or four hours would be very useful. Operating in the other direction, however, is the growing public preference for color television. An additional capital investment of about \$100,000 may be required to set up a good color studio. Even the largest of Canadian systems have chosen not to do so. As the percentage of households in Canada with color television sets increases, the appeal of the black-and-white local origination may sag appreciably. The "amateur" type of black-and-white local programming of even the large CATV systems is not likely to compete effectively for audiences against six to eleven commercial color channels. It thus would not be likely to compete effectively for the local advertiser's dollar, even if there were no CRTC ban on CATV advertising. In other words, a change to color equipment may raise costs more than revenues.

4. Finally, the large backlog of proposals for new series that the CATV systems have in their files indicates that not everyone who wants to be seen and to communicate can do so. This suggests that some form of responsible leased-channel<sup>16</sup> or common-carrier operation is necessary, requiring the operator to make channels available for a fee. At present the cable operator himself is the sole regulator, deciding what is and is not to be programmed. His concern with not appearing to compete directly with broadcasters, and his desire to avoid controversial material that might antagonize some of his subscribers, suggest that his choices may not always be in the public interest.

<sup>15</sup>The availability of local-origination programming needs to be emphasized to all cable system subscribers, since some subscribers do not know or have forgotten that it exists. Special programs (e.g., all one-shot programs) need special promotion to attract an audience. To gain a regular following, programs should be presented at regularly scheduled times on a seasonal basis.

<sup>16</sup>This alternative, under which more groups would have access to cable channels, is discussed briefly in Section V.



### III. DALE CITY, VIRGINIA: AN EXAMPLE OF COMMUNITY PARTICIPATION

Dale City is a relatively new 3500-home tract in Woodbridge, northern Virginia, about 25 miles south of Washington, D.C. It is an unincorporated community, several miles from any other residential area. The single coaxial cable for the CATV system was installed underground with other utilities at the time the subdivision was built. The system is owned by the builder of the tract and maintained by Antennas, Inc., of Arlington, Virginia. Ninety-eight percent of the community's 13,000 to 14,000 residents receive their television via this cable. The monthly charge for the service has been \$1.50 per household, but it will be increased to \$3.00 on September 1, 1970.

The system, known as Cable TV, Inc., began operation February 1, 1966.<sup>1</sup> Its nominal capacity is twelve channels. Reception of over-the-air television signals is very poor in Dale City: Washington, Baltimore, and Richmond signals are all weak. The cable carries eleven signals, ten of which are picked up off the air. The cable supplies six Washington, D.C. stations (three network affiliates, one ETV, and two independents), three Baltimore stations (all network affiliates), a Richmond station (a network affiliate), and Dale City Television (DCTV)—a nonprofit community-operated closed-circuit channel which produces solely noncommercial local-origination programs.

The local-origination channel is of particular interest because it was made available for community programming on a full-time basis to the Junior Chamber of Commerce from December 1968 to early 1970. It thus appears to be the first community-operated closed-circuit television channel in the

United States. Since the Jaycees accepted financial responsibility for the channel on behalf of the community, no advertising is carried.

#### COMMUNITY ORGANIZATION AND FINANCING

An advisory board of the Dale City Civic Association, composed of one representative from each of 13 community organizations (e.g., the Jaycees, the Boy Scouts, the Girl Scouts, Little League baseball, the bridge club, all PTAs, all three churches, and the volunteer fire department), provides community control over programming. The board was to establish working policy for the system and to judge programming ideas for their value to the community. To nurture community pride and involvement in community affairs, DCTV has produced programs describing the plans, problems, and accomplishments of a variety of community organizations and has attempted to involve large numbers of residents in DCTV programs.<sup>2</sup> In fact, the operation has tested the feasibility of using nonprofessional, all-volunteer personnel both for manning the equipment and for performing in the programs. No one receives remuneration.

<sup>2</sup>Marilyn Finley, "Dale City TV, A Unique Experiment in Communication," *Prince William, The Magazine of Northern Virginia*, Vol. 1, No. 9, May 1969, pp. 9-11.

Patrick S. Portway, a former civic association president, initially presented to the Dale City Civic Association the idea for a closed-circuit channel as a means of improving community communications. David J. Touch, the Coordinator of Medical Audio-Visual Services for the Rehabilitation Research Center of George Washington University in Washington, D.C., who has had years of previous television broadcasting experience, has been the volunteer Program Director of DCTV.

<sup>1</sup>See *Television Factbook* (Services Volume), Television Digest, Inc., Washington, D.C., 1968-69 edition, pp. 530-532.





The civic association approached a number of industries and foundations for a grant to back the experiment in community origination, but it was unsuccessful for a time in obtaining support. A \$4700 grant from Giant Food Stores was used to purchase the original equipment.<sup>3</sup> It has frequently been necessary to borrow videotape recorders. Merchants in the Dale City area have loaned special effects equipment and set props. During the following year, an additional \$1700 was spent on equipment and rent.

Although there was no rental charge for use of the Dale City fire house as a studio, there was a charge for using the school auditorium for this purpose. Because state law requires that a responsible individual (i.e., an employee) be present, the school janitor had to be in attendance at all times. The rental charge was \$15 per night plus \$2.50 per hour for the janitor.

About half a dozen one-hour shows took about seven hours to tape at about \$32.50 each for rent. The first-anniversary show cost \$57. Including taping and cleanup, the time for a one-hour show has been reduced to four hours or even less. Thus the programming cost for a one-hour show is now down to about \$25, including the graphics (e.g., superimposed titles).

In January the Institute for Politics and Planning gave DCTV a grant to purchase two tapes per month so that some shows could be saved. During the year approximately \$100 was spent on graphic materials (which were reused). Although sets were usually donated, certain background materials were necessary. Equipment (totaling perhaps a few hundred dollars) that became necessary as the system grew was purchased by the Jaycees until the TV system had its own fund-raising show<sup>4</sup> and could buy its own necessities. Insurance for DCTV was maintained by the Jaycees at a cost of \$125 per year.

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<sup>3</sup>The first order in December of 1968 was for two cameras at \$995 each, two complete tripods, three monitors, two microphones, one videotape recorder at \$1895, one control panel—a special-effects switcher-fader for \$425, and one synchronizing generator for \$325. The total bill was \$4400. With additional lavaliere microphones, two booms, a small mixer unit, etc., purchases totaled \$4700. The estimated retail value of the equipment was about \$5400. In addition, DCTV has had on loan two zoom lenses and lighting equipment worth about \$1000.

<sup>4</sup>Of the \$1700 raised by the show, 80 percent was retained for the use of DCTV.

## OPERATING PROCEDURES

Appendix A lists the basic operating procedures of the Dale City system. A survey of the community indicated that many of its artists and engineers were interested in participating. The directors for news and public affairs, women's programming, sports, graphics, and public relations were selected from individuals with experience in that specific area. None had had experience in television. The programming staff met weekly for brainstorming sessions and general coordination. Housewives were trained to operate the video cameras and videotape recorders (one of the five operating crews was all female). All sessions held in the multipurpose room of the local elementary school have been videotaped. Private homes have also been used. Shows are taped as much as thirty days in advance. About sixty-seven full-time volunteers were trained as DCTV staff. There was no paid staff.<sup>5</sup> The volunteers include directors, writers, set designers, and researchers. A working crew for a full production consists of a director, a producer, a script writer, two or three cameramen, one boom operator, one audio engineer, one video engineer plus one engineering troubleshooter, a floor manager, one or two graphic artists, a scene designer, and several grips to erect or move the sets and props.

For most shows, basic sets have been made from easily obtainable materials. Because of the long time required to set up the equipment before taping and the long time required to tear it down and store it afterwards, most shows were unrehearsed. Tape recordings were generally made Friday evenings and cablecast the following Tuesday evening at the earliest.

During the first year, the fire house was used for about four or five live specials (distributed over the cable undelayed). DCTV would like to be able to originate live at the school auditorium and has tried negotiating for extension of the cable to the school. DCTV has been cablecasting for one hour each week, on Tuesday night, concentrating on community activities and news. Although the program was first presented from 7:30 to 8:30 p.m. to minimize competition with commercial programming, this seemed

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<sup>5</sup>The cable system, as distinguished from the DCTV channel, had its own independent paid staff.



too early to attract a maximum number of viewers, and the starting time was changed to 8:30 p.m. The program appeared opposite the Jerry Lewis show and was claimed to have surpassed the latter in ratings.<sup>6</sup>

In addition, specials have been presented that ran from one to six hours, about eight of them in the first year. The degree of preparation for these specials varied widely. Examples of the programming are contained in Appendix B.

No accurate data are available on the number of viewers DCTV has had, though a telephone poll was conducted by Jaycee wives. The reliability of the answers may be questionable, since many who had forgotten to tune in may have claimed they were watching. With prior reminders, it appears that about one-third of those watching TV were watching DCTV.<sup>7</sup> With no notice in the papers, no posters, and no prior phone reminders, the viewing audience was estimated at about 17 percent of those watching television.

A research and development department was begun recently to find areas in which the television system could be used by the community to solve some of its problems. Research was begun on a community-wide television kindergarten (Dale City has no public kindergartens), a project which enlisted the cooperation of the schoolboard, principals and teachers, and mothers. A second project under way was a summer television theater workshop for teenagers.

## CURRENT PROBLEMS

Despite the success in generating community interest in locally produced television and the rather extensive programming produced over the one-year period, the system faces two related major problems: financing and equipment. With respect to the first, after one year of operation, DCTV was incorporated in February 1970 (under the name Dale City Closed Circuit Television, Inc.) in order to facilitate obtain-

ing support from industry and foundations.<sup>8</sup> Until now, however, the corporation has not succeeded in adding to its financial base.

With respect to the second problem, failures of equipment have been time-consuming and aggravating. When the videotape recorder failed, there was no backup. The first scheduled showing, on the meeting of the County Government Study Commission, had to be canceled due to a videotape recorder failure. The 1-in. videotape recorder caused considerable trouble, since it required two hours to stabilize after being moved from a cold to a warm room. Although the picture quality was good when the recorder was working, it often was not working. Transistors failed, there was frequent synchronizing and video dropout, belts broke or flew off pulleys, and the servos would not lock in consistently. Incompatibility of one videotape recorder with another resulted in poor picture quality. The problem with videotape recorders made live cablecasting preferable.

Defective equipment was replaced or repaired by the manufacturer under the one-year warranty, but expensive and time-consuming repairs were required after the warranty expired. After one year, the equipment has so deteriorated that it is no longer useful.

The heart of these difficulties lies in the very low budget under which the system has operated. There simply has not been enough money available to procure equipment of either the quality or quantity required for dependable operations. The equipment could not withstand four to ten hours of operation per week for even one year. The lack of a permanent studio has been a severe handicap. Wear and tear on equipment is great when it must be moved and assembled for each videotaping session. Being able to leave the control room intact also would have saved considerable time and effort.

Despite strong community support and considerable enthusiasm, DCTV tended to disintegrate as its equipment deteriorated. Substantial and continuous financial support was a necessity, but proved to be beyond the resources of the community. In addition to possible grant aid by industry and foundations, the use of local advertising might have been a partial

<sup>6</sup>Robert Terpstra, "Dale City: A Planned Community Dream," *The Washington Post*, August 14, 1969, pp. F1 and F2.

<sup>7</sup>It should be noted that DCTV was only cablecasting on Tuesday evenings for one hour each week plus a weekend special about once a month.

<sup>8</sup>Included in the incorporation papers was a proposed code of ethics, a version of which appears in Appendix C as an example of what might be appropriate for other community groups.





solution. However, it was widely felt that accepting advertising (even on an experimental basis) would dissipate the civic feeling of DCTV and disrupt or influence civic activities. Thus the ban on advertising became a firm policy.

Finally at the end of February 1970 DCTV decided to abandon programming (at least temporarily) while proceeding with negotiations to solve the financial and equipment problems of the system.

## CONCLUDING REMARKS

The four general conclusions to be drawn from this examination of community-controlled television are the following:

1. Despite the strong local interest and support during the one year of DCTV operation, it appears that an average of two to three hours per week of truly local origination may be all that can be generated for a community like Dale City. The first year of experimentation has shown the advantages of a community channel; it has also shown the very limited utilization of a channel available to that community full time. Such limited utilization by community volunteers may be a function of limited funds, the small size of the community, or its relative homogeneity.

2. It is important to note that DCTV competes against a large number of other stations—seven network affiliates, two independents, and an educational TV channel. To be able to attract audiences against such competition in prime time is a note-

worthy accomplishment. The channel has drawn a significant audience despite the difficulty and expense of informing people about the programming on DCTV and reminding them to tune in (both loud-speaker trucks and the community newspaper were used, but people tended to forget).

3. The geographical separation of Dale City from any other residential community, particularly from any large city, is probably a key element in the strong feeling of community pride and interest in local affairs. In addition, the newness of the community (it is about six years old) and the youthfulness of its members may contribute to the pioneering spirit shown by the original homeowners.<sup>9</sup> Their sense of sharing a common experience may be difficult to maintain as the community matures and homes change hands.

4. Finally, it is important to note the potential import of new federal regulation. The system is over the 3500-subscriber mark and thus will be required to originate under the FCC's recent ruling.<sup>10</sup> With the fee of \$1.50 per month increased to \$3.00 (still well below the typical U.S. rate of \$5.00 per month), the additional revenue may be adequate to support a studio and better equipment.

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<sup>9</sup>At the end of 1968, a sample of 40 percent of the households in Dale City showed the average age to be 19 years. Considering only those over 21, the average age was 32. For such a predominantly young community, it is probable that their Dale City house was their first purchased home. The average family income was about \$11,500.

<sup>10</sup>Federal Communications Commission, *First Report and Order*, Docket 18397, October 27, 1969.



## IV. LAKEWOOD, OHIO: THE PROBLEM OF ATTRACTING SUBSCRIBERS

During a period of about eighteen months in 1967-1968, Cleveland Area TV, Inc. (CAT), jointly owned by Cox Broadcasting and the Cleveland *Plain Dealer*, operated a cable television system in Lakewood, Ohio (one of the dozen or so suburbs of Cleveland). Since there are already five television broadcasting stations in Cleveland and one in nearby Akron that can easily be received in Lakewood, it was clear at the start that CAT would have a difficult time attracting subscribers unless it were free to carry additional signals from distant broadcasting stations (as from Chicago and Detroit) or able to offer attractive programming originated directly on cable (in addition to simply carrying the signals of the local stations). Because the FCC prohibited importing distant signals into the one hundred largest television markets in the United States, and since Cleveland is the eighth largest market, CAT was forced from the outset to rely on its own program origination.<sup>1</sup> (However, there were hopes that signals from two Canadian stations could also be brought in eventually.)

Lakewood was selected for this "experiment" in program origination because it combined low capital investment with high community interest and possessed local newspapers that could be used to promote the CATV system. The median effective disposable income per family<sup>2</sup> was \$10,583—a relatively high median value—and the low-income group was small. Lakewood had a city government and thus a

political identity of its own. There was evidence of vigorous local interests—both community and group activities—aided by a natural competitive attitude toward Cleveland. Lakewood had one of the most stable populations to be found in any large U.S. city. On the basis of this analysis, it was concluded that Lakewood could support a profitable CATV origination programming service with only 25 percent penetration. The experiment was supported by adequate funds, competent engineering, and a well-motivated staff.

Three of the twelve channels on the system were thus devoted to origination: One was devoted to carrying the Associated Press news teletype on an around-the-clock basis, another to the New York Stock Exchange's 15-minute delayed quotation service during its hours of operation (a time and weather scan was presented during the remainder of the time), and a third to local programming of the sort discussed in the previous two cases.<sup>3</sup>

### NATURE OF PROGRAMMING

The local origination began at 1 p.m. and went off

<sup>3</sup>Since there were strong over-the-air signals on the Cleveland VHF channels at all receivers, Channels 3, 5, and 8 were not usable on the cable because of ghosts. (Ghosts are caused by the presence of two similar signals with a small time delay between them, which arises because the cable signal travels more slowly than the broadcast signal propagates through the air.) Thus all three Cleveland VHF channels were shifted to three other VHF channels on the cable (three channels not used by broadcasters in that area). With six stations picked up off-the-air (three of these being VHF stations which were then translated in frequency) and with three origination channels, all usable channels on the nominal twelve-channel system were filled. If approval for the importation of the two Canadian signals mentioned in the opening paragraph of Section IV had been granted, it would have been necessary to drop both the stock market/weather-scan channel and the AP news channel.

<sup>1</sup>The general policy of banning the import of distant signals into the one hundred largest markets was set down in the FCC's *Second Report and Order* of March 17, 1966. For an extensive discussion of FCC regulation of cable see Leland L. Johnson, *The Future of Cable Television: Some Problems of Federal Regulation*, The Rand Corporation, RM-6199-FF, January 1970.

<sup>2</sup>Probably as of 1966.





about 10:30 or 11 p.m. Later, a children's show was added and programming began at 11 a.m. Although this channel carried programming eleven to fourteen hours per day, about five to six hours were movies. The feature movie package consisted of three different movies each day; the same movies were shown for a week but the hours were rotated, i.e., each movie was available at different hours each day. In addition to these feature films, free industrial films were used to fill in half-hour vacant spots. Thus films occupied at least five hours per day.

Local programming occupied about six to eight hours a day. Typical programs were the following:

- Local high school basketball, football, and softball games.
- A one-hour children's show.
- A teen-talk show (four high school students in a half-hour panel discussion).
- Cooking instruction.
- An exercise program.
- A man-on-the-street interview program.
- A home decorating program.
- Interviews with (for example) city councilmen, the city engineer, an Internal Revenue Service agent.
- A call-in "swap shop."
- Fashion shows.
- Local news (a local news reporter collected, prepared, and presented the local news; both the 5:45 news and the 10:30 news are each repeated three times).
- Soccer games.
- Demonstrations of floral arrangements.
- Demonstrations of ceramic decoration.
- High school student reports.

Although permission to program hockey games was requested, it was never given. The high school games were videotaped and presented delayed. The soccer games at the Cleveland Stadium were also taped for later replay. All discussion and local news programs were videotaped and repeated.

## PROGRAMMING COST

Presenting this programming required the full-time services of a program manager, a broadcast

equipment engineer; a studio director who functioned as copywriter and announcer, a newsmen, and a secretary who also ran the ladies' shows. The cameramen were part-time employees, generally high school students, who worked evenings and weekends. The mobile studio van cost about \$5000 (\$3500 for the van and \$1500 for insulation and other furnishings). All programming on the local-origination channel was in black and white. Since there was only one set of equipment, all equipment was moved into the van when necessary. The total capital investment in origination facilities and equipment, including the van and the studio, was about \$75,000. The two cameras alone cost about \$5800 each, and the remodeling and studio construction costs were \$37,500.<sup>4</sup>

The operating budget varied from \$6000 to \$6500 per month; it included all personnel and a prorated portion of the heat and electricity (e.g., \$125 out of a typical monthly electric bill of \$200), but no rent. The total yearly budget was about \$75,000. Of this, about \$10,000 was for the feature film package—two hundred features for the year. Thus the cost of the local origination programming was \$65,000 for the year for six to eight hours daily, five days per week. The average cost of the local-origination programming was thus about \$31 to \$42 per hour. The actual costs of particular programs may have easily run from half to four times these average figures.

All live programming was taped for replay and repeated at least once. For example, the teen-talk program—a panel show using high school students—was presented live between 4:30 and 5:00 p.m. and replayed again between 10:00 and 10:30 p.m. Since almost all the locally originated programming was cablecast twice, perhaps a better figure for the average production cost of local-origination programming is double the previous values—or about \$60 to \$80 per hour. The softball games were an exception; they were taped one evening and played once the next evening.

Since no subscriber surveys were made due to high costs and the limited audience, little information is available on the relative appeal of various programs. One exception was the popular-music program, presented from 7 to 9 p.m. High school stu-

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<sup>4</sup>For a detailed list of equipment, see "People-to-People Cablecasting," *TV Communications*, Vol. 4, No. 6, June 1967, p. 44.





dents served as disc jockeys on this program, playing records and appearing on camera. Several hundred calls were received during the course of the program. Monitoring the incoming phone calls to check for repeats (simply judging by the sound of the voice) suggested that about half to three-quarters of the calls during a single program were from different viewers. Other high school students appeared on the program as guests; there was always a waiting list for guest appearances. The swap shop was at the other extreme. There was often no apparent audience, since for some shows no one would call in with things to sell or swap.

## THE EXPERIMENT THAT FAILED

Despite the appeal of some of the originated programming, the cable operator was not able to attract large numbers of subscribers. Although the installed cable plant passed in front of about 25,000 homes, only 1500 families subscribed to cable service as an alternative to over-the-air broadcast. Since residents of Lakewood could receive a good signal from the Cleveland stations and the Akron UHF station with only a simple indoor antenna, cable television needed other signals to attract subscribers. The plans for CATV in Lakewood assumed approval (not forthcoming, as it turned out) to import two Canadian stations. Part of their appeal was that some Canadian programs are simply U.S. programs released two or three days earlier than in the United States. By the FCC's prohibition on importing distant signals into the hundred largest markets, the cable operator was prevented from bringing in distant, independent TV broadcast signals, and thus had to rely on purchased feature film packages, the AP and stock market ticker tapes, and local origination to attract subscribers.

Several reasons account for the failure to gain subscribers on the basis of these other services. First, Lakewood is a metropolitan suburb of Cleveland rather than a separate community or separate market. Unlike their counterparts in Dale City, its inhabitants tend not to care about local activities or affairs, having little sense of being an independent entity (i.e., apart from Cleveland). The Cleveland stations adequately covered the news and activities of concern to Lakewood residents.

Second, much of the programming had little appeal. A swap show needs a large audience to be successful. Although such a program may be successful once a week for one-half to one hour in a very large system, it is likely to be a waste of time in a very small CATV system. The free industrial films were not interesting, and the feature movies were too dated. The originations were often obviously amateurish; sometimes they seemed too experimental. The parents of the high school students on the school ball teams would sometimes pay \$5 per month only for the season and then terminate rather than subscribe for the full year. No advertising revenue was available to pay for better-quality programming; only the subscriber revenues were available to support the cable system amortization, operating costs, and the origination costs.

As a result of limited budgets, all origination programming—whether from tape, film, or live—was in black and white. Since about 35 percent of the Lakewood households had color sets, this probably reduced the appeal of the origination programming to a key audience—one which valued television highly and could afford a color set.

Third, the state of the art in equipment and techniques did not seem far enough advanced. In general, equipment was in short supply and functioned badly. The AP tape was not particularly pleasant to watch; due to faulty inking, the letters were often not clear. The material was repetitious and could be read much faster than it was presented. In short, it was incredibly boring.

No inexpensive mobile equipment was available. It was a difficult task to move the equipment from the studio to the van and back again: About an hour and a half was required to rip it down and about the same to set it up in the van. Since there was no remote link from the van to the head end, the programs were taped for later replay on a bulky helical-scan videotape recorder which used 2-inch-wide tape. The tapes were reused after a few playbacks, not saved. Tearing down the equipment and restoring it to operating condition in the studio took another three hours.

Cable system engineers now estimate that the new compact equipment available in black and white or color will reduce this overall time from six hours to a half hour for two men. This would considerably facilitate the use of the same equipment for



either studio or remote programming as needed and would significantly reduce programming costs.

Fourth, no inexpensive, effective means was available for informing either subscribers or nonsubscribers about the local-origination programming. For a long time there was no regular, consistent schedule for the programs, which made it difficult to issue a printed program and prevented the development of a loyal audience. A consistent program schedule was finally evolved, but advertising in the Cleveland newspapers was simply too expensive. Two local weekly newspapers are available in Lakewood, but they would not list the CATV programs in their television section free of charge. Since the system served only 1500 households out of 25,000 households (or 6 percent), it hardly seemed worthwhile to the newspapers, though perhaps if the cable system had served 50 to 80 percent of households in Lakewood, the service could have been provided. Thus the cable system had to pay for advertisements in the two weekly Lakewood papers to let its own subscribers as well as other potential viewers know about its local origination. Because direct mail to all subscribers was less expensive than the weekly advertisements in the local papers, the ads were discontinued; thus the system failed to reach nonsubscribers.

## CONCLUDING REMARKS

It is conceivable that a cable system in a community such as Lakewood might now be viable under the present changed conditions: (1) the new FCC rules that permit advertising on local-origination channels and authorize subscription television (STV), (2) the new sources of packaged programming (not locally produced), and (3) the availability of improved studio and mobile equipment. Perhaps these services could be of sufficient interest to attract 10,000 subscribers out of the 25,000 households, and with this number of subscribers, it might prove feasible to generate significant revenues from local advertising (the amount of advertising revenue raised would, of course, influence the amount allocated to program origination). With fewer than 10,000 subscribers, there is not likely to be much advertising revenue.

Local programming as carried out in Lakewood could not be expected to attract advertisers, since it

did not attract subscribers. In order to attract the advertisers, special programming may be required, possibly obtained on a nationally syndicated basis. In principle, excess profits from this operation (if any) could be used to subsidize local origination. If such operations, however, are only marginally profitable, there will be no profits from this source to divert to local origination; thus despite FCC requirements for local origination, only token efforts can be anticipated in this case.

Centralized preparation of programming and its marketing among a large number of systems may make its cost relatively low compared to local-origination costs, particularly for small systems. Some software firms have indicated that they expect to be able to provide twenty hours per week of "quality programming" for about \$0.30 to \$1.00 per subscriber per month. On this basis, the cost to CATV in Lakewood would have been \$450 to \$1500 per month for the 1500 subscribers. If the entire twenty hours were repeated once during the week, the yearly cost for the forty hours of programming would be between \$5400 and \$18,000.<sup>5</sup> The local-origination programming generated in Lakewood (films excluded) amounted to about thirty to forty hours per week (including replays), representing an investment of about \$65,000. Thus it appears that programming possibly having wider appeal for the Lakewood audience may now be available. If such programming had been available to the CATV system in Lakewood, it would have represented a savings approaching \$47,000 to \$60,000 per year. Or, to put it another way, purchased programming would have cost only about 8 to 28 percent of the cost of the locally originated programming. The availability of such programming might have had a significant influence in making the Lakewood CATV operation viable. (Of course, such purchased programming would not provide the sense of localism that generated so much community support in Dale City.)

If network, independent, and educational stations are combined, there are at least fourteen cities which today have six or more TV stations on the air. The aggregate U.S. population within a central 35-mile zone of these fourteen cities totals about 55,000,000 persons. The Lakewood experience particu-

<sup>5</sup>This is only the cost of purchasing the programming. Equipment maintenance and operating costs are not included, but they are not so large as to alter the present conclusions.



larly emphasizes the problem facing CATV franchise holders in these cities. Which distant signals can be imported, and what new services can be provided, to attract a sufficient number of subscribers to make CATV systems profitable in the major cities? Would the Canadian formula work in reverse? Would the importation of Canadian, Mexican, and

European stations (the latter by videotape flown to the United States or perhaps transmitted to CATV studios via satellite) make CATV attractive in the U.S. cities? Few experiments are being run to test mixes that may result in the viability of CATV in the major cities.





## V. AN OVERVIEW

Since each community has certain unique characteristics, and since many time-varying parameters are involved, one should beware of overgeneralization from the few examples presented in this report. Nonetheless, it may be useful to attempt some synthesis of the evidence from the preceding cases.

### SOME COMPARISONS

Cable television thrives where several broadcast stations cannot be received satisfactorily with merely a simple indoor antenna. For this reason, the importation of distant signals (if it had been permitted by the FCC) would have helped to make the Lakewood system financially viable. To put the case another way, there is no evidence that any community would pay the typical \$5 monthly fee of the CATV system solely for the addition of local programming.<sup>1</sup>

Where there is no sense of a separate identity and no community spirit on which to build, local origination may be meaningless. As we have seen, isolation—in both the physical and cultural sense—may make Dale City inhabitants radically different from those of Lakewood. Dale City is physically separated from any other northern Virginia residential community, and many of its inhabitants feel sharply the disparity between themselves and the surrounding rural culture. On the other hand, Lakewood may be too much a part of Cleveland to generate dedicated civic groups.

Even though enthusiasm for local programming may decrease as income, recreational outlets, and

personal alternatives increase, enough interest in local programming may exist in large suburban communities to support an average of a few hours of community-originated programming per week. Thus one might argue that Lakewood, five or six times the size of Dale City, should be able to produce as much programming as the latter in spite of its lower level of interest.

Another factor should be considered in distinguishing between the success of community television in Dale City and the possible response in other communities, i.e., the fact that frequently a great deal depends on a single dedicated leader whose infectious enthusiasm generates community support. For example, a strong, active Junior Chamber of Commerce group in the southeast, reported to be one of the best in the United States, had frequently cablecast its functions on the local system, one with an excellent, fully equipped studio. When repeatedly offered an opportunity to put on a regular program (once a week or even once a month), the group refused the offers on the grounds that it would entail too much time and trouble.

A small community like Dale City possesses neither the financial resources nor the cultural diversity available in the large Canadian cities, yet the amount of experimentation carried out and the degree of community involvement generated are impressive. Under normal circumstances, the channel functioned as both a useful outlet for creative community energy and a source of community entertainment, and also permitted wider and more varied participation in major community events. In times of stress, the channel functioned to provide intercommunication among more people than any single building in the community would have been able to hold. It was a useful tool for promoting democracy in action, whether by explaining issues to the voters, providing time for political candidates, or viewing

<sup>1</sup>A variety of CATV origination supported by local, regional, and national advertising and by subscription may be sufficient to attract a high percentage of subscribers without other inducements in some communities, but even this thesis needs to be tested. In the absence of cheap, real-time interconnection, i.e., networking, such origination may lack mass-audience appeal.





local government agencies in the process of deciding local issues. The most important contribution of DCTV has been aggressive, imaginative experimentation. In general, local-origination programming is highly in need of just such creative experimentation.

On the basis of the Dale City experience, it is apparent that a \$5000 investment in equipment for local origination is simply not adequate and results in great frustration. In the long run it is uneconomical, since the equipment rapidly deteriorates beyond repair. Reliable performance and satisfactory picture quality probably require an initial investment of more than \$15,000; even then, spare equipment is essential. Thus a minimum of \$25,000 in equipment seems to be required for extensive local-origination efforts in black and white. For color, the costs may be as much as \$95,000.<sup>2</sup> In addition, a permanent studio (e.g., even an improved garage) is essential. Funds of this magnitude and adequate space for a relatively permanent studio are not likely to be available to many communities even if the free use of a channel on the local CATV system were assured.

DCTV's basic cost per hour of programming was about \$25. Since (on the average) the DCTV volunteers produced two hours of programming per week, the yearly production cost (including operating costs) would be about \$2500. If we assume a yearly maintenance allowance of 10 percent of the capital investment, then the annual maintenance cost for an investment of \$25,000 in black-and-white studio equipment would be \$2500. Since the head-end equipment for the community channel is maintained by the cable system operator, DCTV pays nothing for transmission. Thus the total yearly cost for a properly equipped DCTV system producing an average of two hours per week of programming is estimated to be at least \$5000. Even if a grant were available to purchase the studio equipment, the recurring costs for its operation and maintenance would still exceed the resources of volunteer groups in most communities.

In large Canadian cities, the many different minority groups provide a rich source of material for local origination.<sup>3</sup> Although subscribers to CATV

are primarily lured by more and better broadcast signals, local-origination programming for minorities has been used by the large cable systems as a supplementary inducement. The closed-circuit FM radio channels which cablecast four to ten hours per day may be more important than the brief video sessions in obtaining subscribers from some minority groups.

Canadian local origination by large CATV systems is noteworthy for providing live video programming at a fraction of U.S. costs for local broadcast programming, for being able to generate ten to thirty hours of new material every week, and for providing additional FM radio stations on a closed-circuit basis with astonishing economy. The fact that any CATV system could originate thirty hours per week of local material at an average cost of \$25 per hour and provide numerous closed-circuit radio channels as well is an impressive indication of the potential of cable television for minority programming.

After as much as ten years of local origination, operators of large Canadian CATV systems tend to settle for a modest level of effort with limited experimentation. The fact that no audience surveys have been made to determine the ratings of the local-origination programs, that there is essentially no promotion of the programming, that local advertising was largely discontinued on local sports programs long before the CRTC ban on advertising, and that annual sales expenditures for obtaining new subscribers are three to thirteen times the budget for local origination indicate the negative attitude toward local origination.

Just such an approach, which leads to perfunctory local origination, is apt to characterize U.S. response to the FCC's recent decision to require local origination on cable systems having 3500 or more subscribers.<sup>4</sup> Token conformity is likely to be the norm.

In its restrained experimentation and its tendency to avoid controversial issues and personalities, Canadian large-system origination points up all too

<sup>2</sup>For supporting data on equipment costs, see Federal Communications Commission, *First Report and Order*, Docket 18397, October 27, 1969, pp. 11-16.

<sup>3</sup>There is a wide disparity between what is being done and what has been proposed for urban minorities. See *Telecommuni-*

*cations in Urban Development*, by H. S. Dordick, L. G. Chesler, S. I. Firstman, and R. Bretz, The Rand Corporation, RM-6069-RC, July 1969, for a detailed discussion of some applications for television in urban ghetto areas.

<sup>4</sup>Federal Communications Commission, *First Report and Order*, Docket 18397, October 27, 1969.



clearly the limitations of local origination under operator sponsorship. The primary function becomes public relations—maintaining favor with regulatory agencies, the government, and the public—and the secondary function attracting new subscribers. All of these factors militate against direct community involvement and against providing an outlet for the nonconformist and the unpopular point of view.

## IMPLICATIONS FOR PUBLIC POLICY

From the preceding discussion, certain conclusions about policy can be drawn:

1. Support of local origination by the CATV system does serve the public interest and should therefore be encouraged. It is premature at this time to specify precisely the number of hours, the kinds of programming, or the type and amount of financial support this effort should entail. Wide and extensive experimentation, audience monitoring, evaluation, and study should precede and provide the basis for any regulatory action.

2. Local origination by CATV system operators by means of canned distributed products is a service to the public only insofar as these products increase the diversity of programming available. However, to leave this function entirely in the hands of the operator would place him in competition with all other suppliers of programming who may wish to distribute their product over the CATV system. This competitive relationship may not be desirable in the long run, since the operator, seeking to maximize the value of his programming, might restrict access and therefore limit diversity. In other words, in such an environment the operator may not aggressively seek to expand capacity as a lessor of channels or as a common carrier. As an alternative, he should be required to carry all programming requested at reasonable published rates. The primary restrictions to be placed on the product should be a warning to the producer that he should violate no criminal laws and the requirement that an adequate bond be posted to cover any potential civil liabilities. The producer should be free to seek advertising—local, regional, and national—to pay for his effort. In lieu of advertising, the producer should be free to choose to show the material on a subscription basis, with the CATV

system operator responsible for collection and payment to the producer. In many areas, Pay TV may prove to be one of CATV's most important new services in the attempt of CATV operators to attract sufficient subscribers to make their systems profitable.

3. CATV systems should be encouraged to make some minimum number of channels available full time for local origination to any broad-based association of civic and service organizations. Where such associations are established, can procure their own equipment and their own studio, and can produce programming effectively, this effort should partially satisfy any FCC requirement for local origination by the CATV operator. Considering the expense of such an undertaking, only a few communities are likely to support such arrangements. The precise number of channels to be made available and the relationship of that number to the size of the system, its capacity, profitability, or any other criterion cannot be specified sensibly at this time. More data on CATV systems need to be available and much experimentation on local origination carried out before detailed requirements can be formulated. The desirable number of channels depends, of course, on local needs, and it is not known at this time how these may vary from one community to the next. It is apparent, however, that local origination by civic associations should be encouraged, for they provide the best form of grass-roots television. They assure the relevancy of the local programming to community problems in a way which cannot be achieved by any number of rules imposed by a regulatory body on a profit-making enterprise.

4. The CATV operator should be encouraged to provide a fully equipped studio and mobile equipment for local origination,<sup>5</sup> and group training courses on the operation of the studio and mobile equipment should be provided on evenings and weekends. The charge for such training should be a nominal fee adequate to reimburse the operator for the direct costs of the training program and provide a margin of profit. The CATV operator should be encouraged to operate as a rental agency, leasing equipment at hourly and daily rates so that individuals and organizations can produce programs on their

<sup>5</sup>This assumes that the association is unable to acquire its own equipment and facilities as described under the previous item.





own premises. The use of the operator's equipment and studio for a reasonable fee should be encouraged. Most community associations that originate local programming will only be able to do so if the training, equipment, and studio facilities are furnished by the CATV operator. Details on procedures and rates as a function of various system parameters remain to be determined.

5. Independent producers using independent studio facilities (e.g., at local UHF broadcast stations) should be encouraged to provide local origination with local commercial sponsorship over leased CATV channels. For example, there is a class of local origination (e.g., local sports) that may prove attractive enough to gain regular support from local advertisers. If coverage by independent producers of such local activities does not materialize, the CATV system operator should be encouraged to carry out local origination of this kind in addition to supporting the community type of local origination discussed above. Arrangements will undoubtedly vary among communities, and considerable flexibility should be permitted at this time.

6. The channel provided for local origination should be equal in quality to the best channel provided by the system when all effects such as ambient temperature changes, reliability, and over-the-air interference are included; the use of a channel of inherently inferior quality should not be permitted. Such a requirement may be a means for improving CATV system design and maintenance.

7. In order to reduce the cost of notifying subscribers of special and common-carrier programs on the local-origination channel, routine monthly direct-mail announcements should be used (a minimum-cost solution may be a three-by-five card enclosed with the monthly bill), as well as regular announcements giving up to several days notice (perhaps on the time and weather channel). The alternate use of the time and weather channel,<sup>6</sup> or else the use of a separate calendar channel to present the complete schedule regularly for the local-origination channel, deserves evaluation. Another low-cost alternative may be a service by the telephone company that allows customers to dial a number and receive a recorded recital of the day's programming. The mes-

sage could be played simultaneously over a large number of telephones. Unless subscribers can be notified of local-origination programming in a reasonable, convenient, and effective manner, the medium has negligible value. Study and evaluation of alternative approaches and their costs for the effective promotion of local-origination programming is essential.

8. When the local-origination channel is not in use, it should be made available for leased-channel use, i.e., a type of common-carrier use. Leased-channel experiments should be encouraged under controls that will assure wide access without irresponsibility. The CATV operator should be absolved of all responsibility for the content of the leased channels, and a bonding arrangement should be developed to ensure that the lessee is fiscally responsible for any civil actions brought against him.

9. Selling local advertising in competition with other media such as local radio and local newspapers is an art. Most cable operators have no experience in selling advertising and no knowledge of how to go about it. As in common-carrier operation, the selling of advertising may involve such potential problems as the equal-time provisions, the fairness doctrine, and sponsorship identification requirements. Few CATV systems, regardless of size, are prepared to cope with these issues. In fact, few CATV systems even appear capable of preparing a good rate card. Although the selling of advertising appears to be a promising new area for CATV, it is likely to require a long and painful education for many. It is possible that in many cases a new entrepreneur may be required to supply the missing expertise for matching origination programming, both local and syndicated, with advertisers, whether local, regional, or national.

10. It is clear that certain developments in CATV technology, such as feedback from the viewer and interconnection, are at least as important for local origination as they are for other services. In mass-audience programming, it is important to advertisers to determine whether the audience is 20 or 21 percent of 60 million viewers. For local-origination programming and for all specialized programming, it is even more important to find out if *anyone* is watching. Determination of whether or not there is an audience provides an indicator of whether or not a program is serving the public interest. Local-

<sup>6</sup>For example, every quarter hour, or continuously in the case of a separate channel.





origination programming needs to be able to poll its viewers on local issues. To evaluate the effectiveness of local programming and thus to evolve programming better suited to local needs, the producers require feedback from their audience. Thus equipment is needed that will (1) verify whether or not each subscriber's set is turned on, (2) determine to which channel it is tuned, and (3) permit multiple-choice responses from an identified respondent. Regional interconnection can be used to make local issues available to all concerned, since some fraction of local-origination programming is likely to have an appeal outside the community in which it is produced. Regional real-time networking via microwave relay would permit the audience to be structured on the basis of interest.

11. Based on the various possible uses discussed above, it is evident that more than a twelve-channel system will probably be needed in most areas, since excess channel capacity must be provided if experimentation with new uses is to occur. Engineering principles suggest that from fifty to a hundred TV channels per cable should be feasible in a CATV distribution system optimized for high capacity. There is ample evidence that substantial economies of scale can be realized in the installation of multiple cables all at the same time; e.g., four cables in a common sheath may be installed in one operation with the amplifiers added only as needed. Without a study (and possibly experimentation) to establish the costs of increased capacity and another study of the projected growth of demand for the new services (again with experimentation), it is not possible to estimate the minimum capacity that cable operators should be required to provide at this time.

## SOME THOUGHTS ABOUT USES IN URBAN GHETTO AREAS

The case studies above, dealing with U.S. middle-class suburban areas and metropolitan Canada, do not relate directly to the potential in the inner city. Yet it is here that the multichannel capability may have its greatest potential to serve society. Some possible roles of telecommunications in urban development have already been described.<sup>7</sup> While finan-

cial resources are more limited than in suburban communities, the availability of a rich source of issues, problems, and dedicated individuals makes the ghetto a logical place for experimentation. Many other aspects of CATV in urban ghetto areas, however, have not been touched on.

The basis of CATV in ghetto areas, as elsewhere, must be that it makes available more and better-quality broadcast signals. Only if the CATV system provides such a service will it be valued and the physical plant protected, and only if the service is valued is it likely to be economically self-sustaining, i.e., supported through monthly payments of the subscribers. The potential of local origination over such a CATV system needs to be fully explored.

Since ghetto areas are generally within strong signal areas of local broadcasting stations, penetration cannot be based primarily on offering better-quality signals (there are exceptional cases of severe ghosts due to multiple reflections). Penetration into the low-income ghettos seems unlikely to succeed on the basis of potential new services (such as facsimile mail and shopping) simply because of the high cost of these services relative to disposable income. Cable television may therefore not be profitable in the ghettos unless the FCC's limitation on the importation of distant signals is removed. Even then—assuming the lower cost per household of the CATV system installation due to the high population density—there is no assurance that CATV will be a profitable venture in the typical urban ghetto in the near term.

The risks and problems of local origination in the ghetto are formidable, since its first effects are likely only to expose the defects of present institutional arrangements and to emphasize the magnitude of the problems. Increased awareness of problems without a program for their alleviation can only lead to frustration. All remedies are likely to require a considerable investment and may require changes in the infrastructure for education, welfare, health services, job placement, job training, etc. CATV is only a communications medium; by itself it can neither generate the funds nor change the infrastructure to evolve workable solutions to present problems.

Some of the expectations for cable TV in the ghetto may be unrealistic. For example, some observers have suggested that ghetto unemployment could be reduced by means of widespread instruc-

<sup>7</sup>H. S. Dordick, L. G. Chesler, S. I. Firstman, and R. Bretz, *Telecommunications in Urban Development*, The Rand Corporation, RM-6069-RC, July 1969.



tional television on CATV. This assumes that the defect lies in the individual and that an appropriate dose of basic education—prevocational, vocational, or orientation-to-the-world-of-work training—will provide the individual with a job despite the shrinking, constantly changing, highly competitive job market. It can be argued, however, that job training produces people either inadequately trained or trained for jobs which do not exist, and that on-the-job training is the only cost-effective type of training. Cable TV does not provide an answer to this. It can only provide a communication medium for assisting in both prejob training and on-the-job training that may be able to reduce the costs of (and permit comparisons between) the two approaches.

While CATV can provide channels to improve intercommunication among ghetto residents, it is not likely to improve communication between the ghetto

and society as a whole because this kind of local programming will not be of general interest. It is not likely to draw the attention of surrounding neighborhoods to ghetto problems and away from the major network shows. However, local origination in the ghetto can perhaps be used to interest local residents in solving their own problems rather than being totally dependent on outside help. Such a channel (with feedback or response from the viewers) can be used to gather data about problems, to build leadership within the community, and to create the sense of participation essential for the success of almost any program or service. Ghetto programs often fail for much the same reason that foreign aid programs fail; to the extent that they appear imposed from the outside, they stifle local initiative, responsibility, and dedication.



## Appendix A

### BASIC OPERATING PROCEDURES FOR DALE CITY TELEVISION<sup>1</sup>

#### DEPARTMENT DIRECTORS

##### Program Director

The Program Director will have complete responsibility over the entire systems operation. All department heads will report directly to him. The Program Director will be responsible in assigning Staff Directors, Producers, Staff Announcers and Assistant Directors for each telecast. All program ideas and policy questions are the direct responsibility of the Program Director. Decisions concerning program policy and station operation are the direct responsibility of the Program Director. He will report directly to the Advisory Board.

##### Director of Public Relations

The Director of Public Relations will be the official public spokesman for the system. This department will be responsible for supplying the mass media with current information concerning this system. Weekly program logs will be supplied to the local papers from this department. All PR information is to be approved by the Program Director through the Public Relations Office. Anyone is free to submit promotional or public relation ideas; however, they must first be approved by the Public Relations Department. In addition, the Public Relations Director will be responsible for supplying promo-

tional information for particular telecasts and assisting Producers and Directors in the writing and placing of promotional and public relations information.

##### Directors of Sports, Women's Programming, News, and Public Affairs

The Directors of these departments are required to keep on hand a constant approved backlog of program ideas. They will be responsible for producing their own programs, supplying formats and talent, and organizing each show in such a manner that it is ready for airing when it comes into the studio.

##### Director of Graphics

The Graphics Director will have the responsibility of producing a complete set of graphics as required for each telecast. In addition, a graphics person will be on hand for each production. Graphic requirements will be submitted to the Graphics Director at least one week prior to a telecast.

##### Scene Designer

The Scene Designer will be responsible for designing and preparing each set for each telecast. Scene requirements are to be submitted to the Scene Designer at least one week before the proposed telecast. Additionally, the Scene Designer will be responsible for all props for each telecast.

<sup>1</sup>The rather elaborate operating procedures devised for Dale City Television may provide a useful basis for community TV in many other areas as well. For that reason, this description, based on one prepared by David J. Touch, Program Director for Dale City Television, is presented here.





## Producers

Anyone in the system is encouraged to independently produce programs, under the following guidelines:

1. A program idea must be submitted first to the Program Director and then approved by the Advisory Board.
2. The Producer is required to submit script outlines, budget, story boards, final script, and all production at least one week before the proposed production.
3. The Producer is required to assemble his/her own crew with the assistance of the Production Supervisor.
4. The Producer will be required to supply to the Chief Engineer all technical requirements for the production.
5. The resources of the entire system will be at the disposal of the Producer for a particular program.

## PRODUCTION STAFF

### Announcers and Talent

As scheduling permits Staff Announcers are asked to be on the set at least one-half hour prior to air time. Coats and ties are required for men, dresses or suits are required for female participants. Sports clothes, etc., are not authorized for on-camera work.

### Engineering and Chief Engineer

The Chief Engineer is solely responsible for the system's entire engineering and engineering personnel requirements. He will schedule for each taping a video engineer and audio man. He will be required to supply information on power requirements, camera and audio operation, including mike positioning, to the Producer and/or Director for a program. Additionally, he will be responsible for the setting-up of cameras and the master control area. He will be responsible for maintaining all electronic equipment and keeping it in operating order, and report directly to the Program Director any technical difficulties occurring during any taping session. He will

hold primary instructional sessions in television engineering for both cameramen and audio men. The Chief Engineer will report directly to the Program Director.

### Production Supervisor

The primary responsibility of the Production Supervisor is to gather each full crew for a particular session. This includes cameramen, floor audio, lighting, grips, and floor manager. Each individual will know in advance what he is expected to do for a particular taping session. It is the responsibility of the Production Manager to see that his crew stays for the entire session and assists in tearing down the equipment in the studio area after the production. In addition, he will be responsible for familiarizing new people with the systems operations along with formally introducing new people to the television staff. He will be additionally responsible for the scheduling of teaching sessions for both production and engineering, along with teaching primary production techniques to new members. The Director of this section will report directly to the Program Director.

### Production Staff

The Production and Engineering Staff are required to be on the set at least one hour prior to technical rehearsal. The Production and Engineering staff will *set up for their area only*. Talent is required to stay out of the production area until the Director is told and set and engineering crews are ready to start shooting. Cameramen, floor audio, and master control staff are the only authorized people allowed to be near or operate equipment, under the supervision of the Chief Engineer and Staff Director. The cameramen for the evening are the only authorized people to operate and man cameras, again under the direction of the Staff Director and Chief Engineer. Lighting, mikes, and other electronic equipment are not to be changed without prior approval of the Director and audio man. Cameramen will assure that their cameras are out of the lights at all times and are not left unmanned or focused on one set for a long period of time. Camera f-stops are not to be changed after they have been set except by the approval of the Director or Chief Engineer.





Since we often have guests in the studio, the entire staff will be required to conduct themselves in an orderly and professional manner. We are with the system to learn and to have fun. Having fun should remain in the realm of good taste.

Questions, comments, or ideas concerning any of the standard operating procedures listed below should be brought to the attention of the Program Director.

#### Summary of Staff Member Responsibility

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<i>Staff Member</i>	<i>Report to</i>
Cameramen, floor manager, lighting, floor audio	Production Supervisor
Audio man, video man, all engineering personnel	Chief Engineer
Directors, staff announcers, department heads, talent, producers and writers	Program Director Graphics Director
Graphics	
Grips, set designers and assemblers	Scene Designer



## Appendix B

### PROGRAMMING ON DALE CITY TELEVISION<sup>1</sup>

#### NEWS AND PUBLIC AFFAIRS

On-the-spot news coverage included the campaign speeches of the gubernatorial aspirants who spoke in Dale City, PTA meetings, and a town meeting concerning the direction of DCTV.

The first live cablecasting of DCTV was of the Dale City Volunteer Fire Department. It was a lively telecast, since a fire call was received while the DCTV crew was on the scene.

Interview shows were held frequently with an announcer-interviewer and two guests from the community.

A meeting of the Prince William Board of Supervisors considering zoning changes for Dale City was telecast.

DCTV took part in a voter registration drive just before election time, with a 93-percent turnout. The Civic Association, which has 2000 family members out of the community of 3400 families and is the largest branch in the State of Virginia, made a strong effort; they went from door to door and ran articles in the local newspaper. On DCTV, there were reminders when to vote and on eligibility requirements, e.g., wives of military who maintain residence elsewhere are eligible. Referendums were explained, and their specific implications for Dale City pointed out. The percentage of funds on school bonds that were for Dale City was discussed.

The County Government Study Commission met in Dale City to inform people of their work. The meeting was being recorded for later playback but the recorder broke down.

The interview type of show by far dominated news and public affairs programming because it was

the easiest and quickest way of putting together an informative program. Some of the interview shows were the following:

"Ex-cons Tell It Like It Is." Four ex-inmates of Lorton Prison, which is just 6 miles away, visited Dale City for an interview. These were all men who at the time of the interview were working to help steer the youth of the inner city away from crime by relating their own experiences. They were articulate blacks from the ghetto who came to DCTV to reach a predominantly white middle-class suburbanite audience. The program was well received and, as had been hoped, stirred some controversy. The DCTV staff felt that this kind of programming was necessary and worthwhile.

"The Fire." Following a tragic fire in which one Dale City man lost his life, questions and rumors began to fly concerning the basic safety of certain models of homes and the efficiency of the Volunteer Fire Department. DCTV went on the air with a taped interview with the fire chief and his assistant and a representative of the builder. Results were that rumors were stifled and Dale City residents became more fire-safety conscious.

"Why Hasn't Anybody Asked Us?" This was a panel discussion between teens in the community and the parents of the teens. Problems in Dale City included lack of teen activities and facilities. This program was an attempt to study a community social problem. What was learned was that while teens may be articulate, they are not necessarily good at analyzing their own problems or in devising solutions.

<sup>1</sup>Based on information furnished by DCTV.



"Our Telephone System." A sore point with most community residents is the local independent telephone system which serves the area. With a State Corporation Commission service hearing upcoming, the news department interviewed the telephone company president and some of the company's representatives. For that show, the interviewer asked residents in advance to send in their gripes to make certain they were valid and they served as the basis for the interview. The results of the show were not as had been anticipated. The community learned that while service was not what it wanted, in many instances the reason for the inconveniences was that the community was served by a small system, not necessarily a faulty system.

## SPECIALS

Specials (full one-hour shows based on a single theme) were usually team efforts, with directors from all departments pooling their ideas and putting together the show. These specials were devised primarily to allow DCTV staff members to indulge their creative energies and to make use of local talent.

"Music of a Season." For that show DCTV went totally mobile, moved equipment (including a piano and a generator) into Washington, D.C., and set up on the steps of the Reflecting Pool in front of the Lincoln Memorial. Special permission was granted for this by the National Park Service. Using this Memorial, the Washington Monument, the Reflecting Pool, the tourists and the park-like atmosphere for sets, talent from the Dale City area sang, hummed, strummed, and played the music of autumn. Talent for the show included a high school chorus, several folk singers with guitars, an a cappella girls' trio, and an operatic soprano. A third camera had been borrowed and equipped with a telephoto lens. That camera was mounted atop a truck. The other two cameras using zoom lenses were used on various levels. A generator was necessary because there was no other power source. A Dale City area merchant donated the one used and a standby. Use of the trucks to transport the equipment was also donated.

"Music of the Community." More than 60 members of the community appeared on camera in a one-hour display of musical talent for DCTV's first special. The show was taped in a school multipurpose room and material for sets was donated by local merchants. The music ranged from country-western through folk songs, show tunes, and folk choir music. Anyone talented in the community was given the opportunity to appear. The M.C. for the show was one of the area ministers who tied together the widely ranging numbers with poetry, philosophy, and talk all written or culled from memory that night. Sylvania sent to Dale City a mobile van complete with studio cameras to do the show. DCTV crew members manned all the equipment under the guidance of Sylvania engineers.

Other specials included "Merry Christmas," DCTV's holiday wish to the community, which included some acting, elaborate sets (by DCTV standards), and a full script; and "Jamboree," a full country-western show taped at the school with very simple mood-evoking sets. The DCTV Birthday Celebration was one of the few shows taped with a full audience. The show featured music by a 35-member Army concert band.

## PUBLIC SERVICE ANNOUNCEMENTS, VIGNETTES, AND FILM

For regular weekly shows each department furnished a portion of the hour's programming, any leftover time being filled with the following: community announcements, usually produced like separate short commercials, using special props, lighting and scripts; short humorous vignettes on timely subjects; or (on one occasion) a short documentary film. The film was titled "A Child's First Day of School" and ran approximately ten minutes. It was well received; had a budget been available other films would have been produced. Because of their brevity the public service announcements and vignettes could be rehearsed and staged. These served as cutaways to smooth transitions between two segments and also provided a flexibility for allowing airing of last-minute announcements, since these could be cut or stretched.





## AUCTION

A televised auction ran from 8:30 p.m., August 2, 1969, until 2:30 a.m. The purpose of the auction was to raise money to support the system. The auctioning of the merchandise contributed by retailers in the area (value \$2500) netted \$1700; 20 percent of this was donated to the civic center fund. Although DCTV has generally opposed advertising, each merchant who donated merchandise was mentioned.

Ten telephones were installed in the fire station where the auction was held. Volunteers from the Jaycee wives' organization manned the ten telephones and telephoned every listed phone in the community about one hour before the auction began to remind people to tune in to DCTV. The telephones were donated for the evening as a civic project. Bell and Howell of Chicago brought in \$100,000 worth of color equipment and provided three technicians to set it up for the one program.

Three of DCTV's five volunteer production crews operated the color equipment throughout the telecast. The power company donated the power, and the Law Enforcement Committee volunteered to deliver the merchandise. Arts and crafts club members tallied auction items, and the Junior Teen Club sold food; local dignitaries served as auctioneers, and the entire community supported the auction. A later tally of people involved showed that 367 people had helped put the auction together.

## WOMEN'S PROGRAMMING

The underlying idea behind all of the shows for the women's department was to bring to the Dale City housewife knowledge of the opportunities around her to help her as a wife and mother. The shows were a combination demonstration and interview with an expert in the craft or art being discussed. The women's department also developed a consumer report on food items which discussed the good buys of the week and ways of taking advantage of them. Some of the women's show topics included ceramics, makeup, decoupage, cake decorating, painting, lawn care, and home decorating.

## SPORTS

Originally the sports department wanted to show

the young people of Dale City at their many recreation projects: Little League baseball, Little League football, the soap box derby, and shooter education. Once into the project, it became obvious that weekly "on-location" shows were impossible, since they placed too much wear and tear on the equipment. Often releases to televise the games could not be obtained. Film seemed a good answer but was too expensive for DCTV on a weekly basis. Film was used for one show with excellent results, since the film greatly aided the pacing of the show.

The sports department had to be content with reporting the results of games and using demonstrations. Some of the demonstrations which were most successful were karate, as performed by instructors ranging in age from 6 to 45; modern dance, performed by a club from a nearby high school; demonstration of wrestling holds and countermoves by high school students; pointers on how to improve one's golf game by a local golf pro.

## FOURTH OF JULY PARADE AND CARNIVAL

The entire three-hour parade was carried live. The home viewer had a much better view and was better informed about the floats and marching groups than those who saw the parade first-hand. The switcher, audio control, and monitors were mounted in the back of an enclosed truck; camera 1 was on the street, using a borrowed zoom lens, and camera 2 was mounted on top of a station wagon using a borrowed telephoto lens. Announcers were at the edge of the crowd and a monitor was placed near them so they would know what action was being televised.

The annual Fourth of July Carnival is run by the Civic Association. Professional rides are brought in, and civic groups build and man all manner of booths and eating concessions. For the carnival, DCTV used the mobile unit and taped an hour-long show for later cablecasting. Members of the DCTV staff visited each of the carnival booths and rides, and interviewed spectators and concessionaires. The DCTV staff tried videotaping the fireworks which climaxed the evening but learned that picking the rocket bursts out of a black sky and quickly focusing was too difficult.



## Appendix C

### A CODE OF ETHICS FOR COMMUNITY TELEVISION: THE CASE OF DALE CITY<sup>1</sup>

The System shall be operated on behalf of the Community by volunteer members from the Community, and shall orient its programming toward promoting the interest, welfare, and entertainment of the Community with emphasis on enhancing civic development.

The System shall insure that its programming is on a level of dignity commensurate with the cultural, social and moral standards of the Community and shall insure that programming is impartial and nondiscriminatory and not directed at any specific racial, ethnic, social, cultural or religious group with a latent or implied derogatory intent.

No member of the System shall receive a salary or derive financial benefit from the System.

The System shall not present paid commercial advertising, but shall permit factual mention of gifts, grants, honoraria, services or donations to the System which enhance the technical, artistic, theatrical or public service value of the system.

No member of the System shall accept any personal gift of money or merchandise. Acceptance of a grant, service, loan, or gift of money or merchandise to the System which is considered integral to good programming or which materially adds to the artistic, technical, esthetic, entertainment or public service value of programming shall be permitted.

No member of the System shall use his position or association with the System (or the facilities of the System) for personal (or political) advancement or

financial reward, nor shall association with the System be advertised on the System in connection with partisan political activity.

A formal procedure shall be instituted to exclude from membership in the System any person deemed to have used his association with the System with indiscretion or dishonesty, or to have compromised the integrity, dignity, social value, reputation or ethical standards of the System.

The System shall not exclude any member of the Community from membership in the System nor shall suggestions for programming or requests for Community interest announcements be excluded from consideration unless not commensurate with the ethical standards of the System.

Subjects of specific and direct editorial comment by the System will be accorded equal broadcast time to answer, rebut, counter or explain such editorial material in keeping with the spirit of the "fairness doctrine."

The System shall orient its political programming to contribute toward a better-informed local electorate. As such, it will present a balanced political program schedule, in keeping with the spirit of the "fairness doctrine," and on an equal time basis. To provide a civic forum for the Community the views of the major participants and the major issues confronting the local electorate will be presented. However, the System will not engage directly in partisan political activity, will not present partisan political editorials, and will not present political issues involving the System.

<sup>1</sup>Prepared by the staff of DCTV, this code suggests the range of ethical issues involved in community operation of a channel.



*The typographical format used in this report represents a practical application of current computer-associated technology to decrease the time and expense usually involved in manuscript preparation and typesetting. The copy is keyboarded on an IBM Magnetic Tape Selectric Typewriter (MT/ST), an office machine designed to reduce the time required for correction and editing of written material. After correction, the MT/ST tape is processed through an IBM 2495 Converter multiplexed to Rand's IBM 360/65 computer, producing a standard computer-readable magnetic tape. This tape is processed on an RCA Spectra 70/35 and an RCA Videocomp, operated by Auto-Graphics, Inc., of Monterey Park, California, to produce phototypeset galleys which are then pasted up for reproduction. The RCA system also does the line justification and hyphenation, according to standard algorithms. This process results in a substantial reduction in the author-to-reader costs normally associated with graphics quality publications.*











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# CABLE TELEVISION AND THE QUESTION OF PROTECTING LOCAL BROADCASTING

Leland L. Johnson

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**Rand**  
SANTA MONICA, CA. 90406



## PREFACE

Because of extraordinarily rapid technological advances in the communications field, creating new opportunities and problems for society, there is a great need for systematic, objective, and independent research in the area of communications policy. In response to this need, The Rand Corporation has established a program that draws on the special knowledge of economists, other social scientists, engineers, and lawyers in a multidisciplinary approach to communications policy problems.

This is the first in a prospective series of reports supported under a three-year grant to The Rand Corporation by The John and Mary R. Markle Foundation. It deals with a number of major issues of immediate concern to the Federal Communications Commission in the field of cable television. A number of related Rand studies in this field have been completed under an earlier grant from The Ford Foundation:

- Leland L. Johnson, *The Future of Cable Television: Some Problems of Federal Regulation*, RM-6199-FF, January 1970.
- Richard A. Posner, *Cable Television: The Problem of Local Monopoly*, RM-6309-FF, May 1970.
- Nathaniel E. Feldman, *Cable Television: Opportunities and Problems in Local Program Origination*, R-570-FF, September 1970.
- R. E. Park, *Potential Impact of Cable Growth on Television Broadcasting*, R-587-FF, October 1970.



## SUMMARY

Regulatory policy of the Federal Communications Commission has been oriented toward restricting the growth of cable in large markets, primarily to protect struggling non-network ultra-high-frequency (UHF) stations, while permitting cable to flourish under liberal conditions in the smaller markets. However, according to extensive statistical analysis at Rand, the most serious threat of cable is precisely in these smaller markets. Non-network UHF stations in the large markets would be *helped*, not harmed by the growth of cable.

Continuing to be concerned with the potential adverse impact of cable in large markets, the Commission has proposed a new "Public Dividend Plan" consisting of three major elements:

1. "Commercial substitution" permitting carriage of a limited number of distant signals into the 100 top markets, but with commercial advertising carried by the distant originating stations deleted and replaced by advertising sold by specified local stations.
2. Payment of 5 percent of the subscriber revenues of cable operators for non-commercial television service.
3. A flat percentage of gross revenues to be paid by cable operators, in accordance with legislation yet to be established, sufficient to compensate copyright-holders for the use of distant signals by cable operators.

We find, however, that the commercial-substitution scheme has serious drawbacks. First, it does not offer protection in the small markets where the impact of cable is likely to be the most severe. Second, whatever benefits would accrue to local broadcasting stations would depend on extraneous factors involved in the cost of substituting and deleting commercials—factors having little to do with whether these particular stations should be protected. Third the scheme carries the danger of making broadcasters increasingly dependent on revenues generated from advertising on distant signals and dulling their incentives for doing an effective job of local broadcasting.

If the objective of protecting local broadcasting is deemed to be in the public interest, there are better ways to proceed. The direct-compensation plan outlined in this Report would involve payments by cable operators to broadcasting stations in accordance with actual audience loss caused by cable in both large and small markets. This approach has the advantages of (a) meeting head-on the threat of cable in small markets, (b) avoiding a capricious distribution of benefits among broadcasters, and (c) avoiding the danger of perverse incentives.

However, the objective of protecting broadcasting should not be taken as fixed and inviolable. Were cable companies permitted to import distant signals





without formal protection or compensation to local broadcasters, the results might well be consistent with the public interest. Stations in the larger markets would probably not be harmed substantially in the face of widespread cable growth. In the smaller markets, many stations might eventually be forced by reduced revenues to become satellites of larger market stations, in the same way that satellite stations operate today in some areas of the country. If so, the main loss would be to the localized programming that a conventional broadcasting station would ordinarily transmit to its local audience. However, even this problem can at least be partially mitigated by requiring, through a compulsory license procedure, cable operators who operate within the broadcasting area of the satellite station to make available to that station free of charge any local programming that they themselves originate. In this way, viewers dependent on over-the-air service would continue to receive some local programming.

This report suggests that the Commission permit carriage of commercial distant signals into the top 100 markets subject to the following conditions:

- Restricting the number of signals to four, as proposed by the Commission, with payment by cable operators of whatever copyright fees may eventually be established through new legislation.
- Requiring the cable operator, in return for these statutory fees, to carry the distant signals "as is," including the advertising of the originating station.
- Permitting selection of the signals without restrictions on leapfrogging, but requiring that they be carried only from stations that are *not jointly owned* with the cable system in question.

If it is held to be vital to the public interest that provision be made for formal protection or compensation to commercial broadcasters, then, in addition to the preceding conditions, cable operators should be required to stand ready to compensate along the lines suggested in Section III of this Report. If, in fact, the growth of cable does not seriously harm stations in the major markets, as projected by recent Rand analysis, then cable operators would end up paying little or nothing.

The Commission's recent decision to prohibit joint ownership of broadcasting-stations and cable systems in the same market rests on weak grounds insofar as the prohibition extends also to non-commercial stations. However, if the FCC were to exempt non-commercial stations from the prohibition against cable ownership, it should simultaneously consider a rule that any cable system owned by a non-commercial station be required to carry the signal of at least one outside non-commercial station in addition to the local non-commercial signal.

The Commission's proposal to require cable operators to pay 5 percent of their gross subscriber revenues to educational non-commercial television is sound, if viewed as a substitute for the copyright payment that is ordinarily paid for commercial programming. However, it is important in this case that the cable operator be given a wide choice of non-commercial signals to be carried on his system. In return for the payment, he should be permitted to bring in at least one or two outside non-commercial signals, in addition to carrying the signal of the local non-commercial station.



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## I. INTRODUCTION

### THE COMMITMENT TO UHF AND THE EMERGENCE OF CABLE

Spectrum space in the very-high-frequency (VHF) band is sufficient to provide only a few television channels—typically two to four—in most major cities. This is a serious constraint in view of the Federal Communication Commission's policy of promoting a wide diversity of programming, including local programming to meet community needs as well as educational, non-commercial services. The Commission became strongly persuaded in the early 1950s that the development of broadcasting in the ultra-high-frequency (UHF) portion of the frequency band, in addition to VHF, was the most promising approach to relieving the problem. Although the number of channels in major markets using *both* VHF and UHF would remain restricted, typically ranging from five to seven, this would still be a significant improvement over broadcasting without UHF.

However, the growth of UHF has been slower and less profitable than had been hoped. By the end of 1968, only 183 commercial UHF stations were operating out of 654 channel allocations. In 1968, only two of the 37 non-network independent UHF stations reported a profit.

In competition with VHF stations in the same market, UHF has been under a severe handicap. Propagation of signals in the UHF band is more strictly line-of-sight than in VHF, causing poorer reception in hilly or other obstructed areas. Moreover, most receivers built in the early years were designed only for VHF, further restricting the size of audiences available to the new and struggling UHF stations.

Legislation was passed in 1964 requiring that all television sets manufactured thereafter be equipped with tuners capable of receiving both UHF and VHF channels. However, UHF tuners added by most

manufacturers employ a continuous dial, which is less convenient than VHF detent-switch tuner. In belated response, the Commission has recently decided to require that sets manufactured after certain specified future dates have UHF tuners fully "comparable" to those for VHF.

At the time the FCC decided in favor of UHF, cable television (or CATV) was in its infancy. The early systems grew up largely in rural mountainous areas for homes that would otherwise have little or no service. The potential of cable for bringing many additional channels into metropolitan areas, and the potential conflict with over-the-air broadcasting, was hardly perceived. At that time, most observers had never heard of cable television, much less had perceived its long-term potential.

Having made its commitment to UHF, the FCC was perplexed and disturbed when it received an increasing number of complaints from broadcasters that cable systems were bringing signals into their television markets from distant broadcasting stations. It was one thing for cable to carry the signal of local stations into nearby hilly or mountainous areas plagued by poor over-the-air reception. It was quite another for a system to bring signals from distant stations, perhaps hundreds of miles away, in competition with the signals of local broadcasters. UHF stations, especially, were having a hard enough time as it was. The additional signals carried by cable into the same market would fragment and further reduce the audience available to local UHF stations. Cable systems carry the signals of UHF as well as VHF stations; by putting UHF on the same dial with VHF, cable places the two kinds of signals in parity. For cable subscribers, the UHF handicaps noted above are thus eliminated. However, the benefits of parity are generally thought to be outweighed by the harmful effects of audience fragmentation.





After a number of years, during which jurisdiction by the FCC was gradually extended over cable, the Commission moved decisively in 1966 to protect local broadcasting, particularly UHF. In its *Second Report and Order*, it ruled, among other things, that cable operators were not to bring distant signals into the top 100 markets without a prior special hearing and waiver. These markets, embracing metropolitan areas containing over 80 percent of the nation's population, were singled out because the FCC judged that these were the markets where UHF development would most likely take place—hence, where protection would be most needed.

However, the special hearing and waiver procedure proved cumbersome and time-consuming. Moreover the FCC became increasingly concerned that cable was competing "unfairly" with local broadcasters, since cable operators pay nothing for programming carried over cable, while local broadcasters are subject to full copyright liability for whatever programming they acquire. In consequence, the Commission proposed new rules in late 1968: the hearing and waiver procedure would be abolished, and cable systems in the top 100 markets would be permitted to import a limited number of distant signals on the condition that they obtain "retransmission consent" from the originating broadcasting stations—a condition that also involved clearance from copyright owners. Outside the top 100 markets, cable operators remained free of the retransmission-consent provision.

The general effect of these rules has been to retard the growth of cable in major metropolitan areas. Although cable service has grown rapidly over the past decade, with over four million subscribers counted by the beginning of 1970, most of it has been in the smaller markets into which distant signals are permitted, and in a few larger markets where buildings or natural obstructions degrade the quality of over-the-air signals. Although, in principle, the retransmission-consent approach might assist in gaining access to major markets, cable operators generally complain that they are unable to obtain the retransmission consent, as defined by the FCC, on a satisfactory basis.

As a result, the FCC has been under strong pressure from all sides. Many observers point to the promise of cable in providing not only a vast increase in the number of channels for television, but a variety of other services such as facsimile mail, shop-

ping, and data use.<sup>1</sup> Yet it is clear that this potential can never be realized unless cable is able to penetrate into major markets. Cable operators assert that in most cases major markets cannot support viable cable systems unless they are permitted to carry distant signals. Program suppliers are generally favorable to the growth of cable, but only if adequate arrangements are made for copyright payment—in contrast to the present situation, where cable operators pay nothing. Broadcasters (except those who themselves have heavy business interests in cable) are generally opposed to the growth of cable systems carrying distant signals.

The Commission appreciates the potential of cable to provide more diversity in programming, including a greater degree of "localism" than is feasible with over-the-air broadcast. But it is also fearful that expansion would reduce the level of over-the-air service available to those who are unwilling to pay for cable service, or to those who live in sparsely settled areas uneconomic to serve by cable. Although the Commission is not seriously concerned that television networks and their affiliated stations would be badly harmed by the growth of cable in major markets, it is troubled about the threat of cable to the independent UHF stations, nearly all of which are losing money today.

## THE PUBLIC DIVIDEND PLAN

In an attempt to resolve the conflict between cable and broadcasting, the FCC has recently proposed a new "Public Dividend Plan" consisting of three key elements: (1) "commercial substitution," involving carriage of a limited number of distant signals into the top 100 markets, but with commercial advertising carried by the distant originating stations deleted and replaced by advertising sold by specified local stations; (2) payment of 5 percent of subscriber revenues by cable operators for non-commercial television service; and (3) the suggestion that a flat percentage of gross cable revenues paid by cable operators (in accordance with legislation yet to be

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<sup>1</sup> See for example, Electronics Industries Association, *Comments Filed Before the FCC*, Docket 18397, October 27, 1969; and the President's Task Force on Communications Policy, *Final Report*, December 1968, Chapter 7.





enacted) would be sufficient to compensate copyright owners for the use of distant signals.<sup>2</sup>

## PURPOSE OF THIS REPORT

The purpose here is to examine these elements, and related matters, as an approach toward resolving the conflict between cable and broadcasting. Section II will be devoted to the commercial-substitution proposal, in terms of its mechanics, the nature of its benefits to broadcasters, and its effects on their incentives. In Section III, we shall consider an alter-

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<sup>2</sup> *Second Further Notice of Proposed Rule Making*, Docket No. 18397-A, July 1, 1970. Henceforth referred to as *Second Further Notice*.

native involving direct compensation paid by cable operators to broadcasters in accordance with audience loss caused by the carriage of distant signals on cable. In Section IV, we shall consider more broadly choices open to the Commission, including that of permitting carriage of distant signals with no formal protection accorded to broadcasters, but with payments made to copyright owners. Finally, in Section V, we shall treat two questions of importance to non-commercial broadcasting—whether non-commercial stations should be permitted to own cable systems within their own broadcasting area, and whether a satisfactory rationale exists for the payment by cable operators of 5 percent of their gross revenues to non-commercial television as proposed by the Commission.



## II. THE COMMISSION'S PROPOSAL FOR COMMERCIAL SUBSTITUTION

If importing distant signals reduced audiences of local stations, could the stations be protected by simply permitting them to sell advertising on the distant signals, in addition to the advertising they sell on their own local broadcasting signals? More concretely, why not devise a system whereby advertising sold by the distant originating station (say, in Los Angeles) is deleted when the signal is picked up in a local market (say, in San Diego)? It is this possibility that is now being explored by the Commission. The more popular the distant signals—so the reasoning goes—the greater the audience fragmentation, but the greater also the additional revenues to the local stations from their advertising sales on the distant signals. Hence, any loss they incur as a result of a smaller local audience would be more or less compensated for by the additional revenues from their advertising on the distant signals.

The advantage of this scheme lies in providing a source of revenue to compensate local stations for loss of audience arising from competition with distant signals without necessarily imposing an additional burden on cable operators. These revenues might not only compensate marginal UHF stations for audience loss but also "affirmatively promote" their growth. Finally, the scheme would ensure that distant signals include advertising relevant to the local markets where the signals are seen.

Thus, the FCC is now proposing that in the top 100 markets cable operators be permitted to import four signals from distant stations, with commercials deleted and replaced with commercials sold by local stations, as follows:

1. If there are independent UHF stations in the market, the commercials provided by these stations will be substituted.
2. If there are no independent UHF stations in

an intermixed market, the commercials of the UHF network affiliates will be substituted.

3. In all-VHF markets or all-UHF markets, after a period of two years to permit applicants for the new UHF stations time to obtain permits, the commercials of all the local stations will be substituted.
4. Any local station, upon special showing of a threat to its viability or its ability to adequately serve the public, will also be given the right to provide their commercials. The station need not wait for impact resulting from CATV to seek such relief, but may do so at any time, by the submission of an appropriate detailed showing<sup>1</sup>

This new approach is commendable insofar as it marks a departure from what has been, in effect, blanket protection accorded to *all* broadcasters in major markets. As pointed out in an earlier Rand study, the FCC's past and current restrictions on use of distant signals serves to protect not only the struggling independent UHF stations but also the network-affiliated, highly profitable, VHF stations as well.<sup>2</sup>

However, even if we accept the overall objective that, in the public interest, broadcasting should be protected through regulatory policy, the commercial substitution proposed has several serious drawbacks. These include:

- The fact that the proposal says nothing about the smaller markets, those below the top 100,

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<sup>1</sup> Second Further Notice, p. 4.

<sup>2</sup> Leland L. Johnson, *The Future of Cable Television: Some Problems of Federal Regulation*, The Rand Corporation, RM-6199-FF, January 1970, p. 76. Henceforth referred to as *The Future of Cable Television*.





where the effects of cable can be expected to be *more* severe than in the larger markets the FCC seeks to protect.

- The likelihood that the benefits of the plan will be capriciously distributed among local stations in the top 100 markets, depending on a number of extraneous factors bearing no relationship to the degree to which cable growth actually harms those stations.
- The possibility that in many cases the new revenue source will weaken the incentives of the local station owner to discharge his own broadcasting responsibilities in a satisfactory manner.

## THE PROBLEM OF SMALLER MARKETS

Here, as in its earlier actions, the FCC has been primarily concerned with the threat of cable to broadcasting in the top 100 markets: witness its *Second Order and Report* banning distant signals, its retransmission-consent proposal, and now its commercial-substitution proposal.<sup>3</sup> This emphasis persists for at least three reasons: first, it is widely believed that the best prospects for additional UHF stations are in the top 100 markets (or at least in the top 50)—hence, the alleged need for protection from cable. Second, virtually all stations in the smaller markets, UHF as well as VHF, are network-affiliated, a circumstance that presumably increases their ability to withstand competition from cable. Third, it would be difficult politically for the FCC to deny the use of distant signals to markets that today do not have at least a full line-up of network fare. Had the FCC denied viewers access to the other networks and to some independent stations through subscribing to cable, it would have subjected them to what would generally be considered grossly inadequate service. Such an outcome would undoubtedly have generated massive protest.

<sup>3</sup> The Commission has never imposed specific restrictions on carriage of distant signals into the smaller markets. Rather, it examines these markets on an *ad hoc* basis in cases where local stations file petitions in accordance with Section 74.1109 of the Commission's rules relating to CATV. In its *Further Notice*, paragraph 15, the Commission stipulates, "In the markets below the top 100, CATV systems would not only be grandfathered, but they could expand with present signals."

However, in the long run, it is precisely in these smaller markets that the impact of cable is likely to be the most severe. In his recent Rand study, R. E. Park has examined the potential penetration of cable based on carriage of a number of distant signals (but not including the various potential new services, such as shopping and facsimile mail, that have been widely discussed). He estimates that cable may ultimately grow to include roughly 60 percent of the households in the smaller markets—those having only one or two local stations—and 30 to 50 percent in the larger ones. On the basis of this penetration, he estimates that network-affiliated VHF stations in small markets may suffer revenue losses exceeding 50 percent. *In contrast, he estimates that in the large markets UHF independent stations generally would be helped by the growth of cable.*<sup>4</sup>

UHF is helped in the large markets because placement of the UHF signal on a parity with VHF outweighs, or at least cancels, the audience-fragmentation effect resulting from the importation of distant signals. In large markets, it is the network-affiliated and independent VHF stations that Park estimates will suffer some revenue loss, perhaps as much as 20 percent.<sup>5</sup> Here again, the reason is clear enough: Since the "parity effect" is not relevant for VHF signals, there is nothing to offset the audience fragmentation in the local market.

Park's analysis provides empirical support for an argument made in the earlier Rand study. That is, in terms of percentage losses of audience, stations in a one- or two-station market are more clearly threatened by the import of an additional four signals (including those of the missing network) than is a station in, say, a six-station market. In the larger market, the audience is, so to speak, *already* fragmented. The additional harm that distant signals can do is, therefore, relatively limited.<sup>6</sup>

<sup>4</sup> R. E. Park, *Potential Impact of Cable Growth on Television Broadcasting*, The Rand Corporation, R-587-FF, October 1970. Henceforth referred to as *Impact of Cable Television*.

<sup>5</sup> These estimates deal with reductions in revenue only in the station's local market. They overstate the potential overall losses to the station insofar as its signal is carried on cable to distant markets as well, and insofar as the distant audiences have advertising value to the originating station. The partially offsetting effect is probably more important for large- than for small-market stations, since it is the former whose signals will be most in demand by distant cable systems. If so, it may be reasonable to conjecture that large-market stations will not generally suffer overall revenue losses, while small-market stations will continue to be disadvantaged.

<sup>6</sup> *The Future of Cable Television*, p. 76.





Park's conclusions are important, because they suggest that current regulatory thinking is based on presumptions quite erroneous. Rather than threatening UHF stations in the major markets, as the Commission fears, cable penetration will have its most severe impact on VHF network-affiliated stations in the smaller markets—a problem that the FCC has largely neglected.<sup>7</sup> If the FCC is concerned about maintaining adequate over-the-air service for those unwilling or unable to subscribe to cable, it should concentrate on the smaller, not on the larger, markets. In the latter, viewers now enjoy, and will continue to enjoy, a substantial range of over-the-air service with or without cable. It is the rural viewer in the more sparsely populated portions of the country who would seem most vulnerable, for he is the one totally dependent on service from one or two stations.

If this is true, then the solution might appear to lie in simply expanding the commercial-substitution plan to *all* markets, small as well as large. But here we encounter the problem of high costs for the equipment and selling efforts involved in inserting local advertising on incoming signals. It is not entirely clear that these costs are within manageable proportions in many of the large metropolitan markets, let alone in the smaller ones. The FCC has suggested that a computer switcher at the cable headend required for deletion of the incoming commercials would involve an investment of perhaps \$50,000; helical scan recorders, of which three or four would be required, would run to about \$18,000 apiece.<sup>8</sup> Using these investments costs, we derive the figures shown in Table 1.

For major metropolitan cable systems embracing many thousands of subscribers, the per-subscriber

Table 1

ESTIMATED ANNUAL EQUIPMENT AND OPERATING COSTS  
OF COMMERCIAL SUBSTITUTION

Amortization and interest at 8% (assuming 10-year equipment life) .....	\$18,000
Maintenance (10% per year of initial investment) .....	12,000
Technicians (two at \$10,000 annually, to operate equipment).....	20,000
Total annual cost .....	\$50,000

burden imposed by a \$50,000 annual expenditure may not be prohibitive. In many cases, distant signals will be brought in by microwave to feed a number of adjoining large metropolitan systems. Here the cost of the equipment, installed at the microwave terminal rather than at separate headends, could be spread over all the systems. For cable systems encompassing 100,000 subscribers, the total annual cost estimated in Table 1 would amount to only about 50 cents per subscriber.

In the smaller markets the situation is much different. The majority of cable systems, already numbering in excess of 2,000, are located in these smaller markets. They are generally small, scattered, and not interconnected; in many cases they carry distant signals by over-the-air pick-up rather than by microwave link. For a system embracing, say, 4,000 subscribers, the cost per subscriber for the equipment and its operation would run to about \$12 annually—a figure that seems high in comparison with the revenues to be derived from inserting advertising on distant signals.<sup>9</sup> Moreover, the \$12 figure does not include the cost of selling advertising in the local market and is itself probably an underestimate of even the equipment and operating cost.<sup>10</sup> *In short,*

<sup>7</sup> If the threat is primarily in the smaller markets, the question arises as to why stations in these markets have not complained more vocally, since distant signals have been imported into the markets for many years. The answer is that (a) despite rapid cable growth, most smaller markets still have far to go before reaching the ultimate penetration level of 60 percent or so estimated by Park; (b) the overall growth of television revenues has been rapid over the last decade (having doubled between 1960 and 1968), and this strong upward trend has helped to conceal whatever revenue reductions might have been generated by cable; (c) as mentioned in the preceding footnote, carriage by cable of stations' programming and advertising into yet other markets may have a partial offsetting effect to the extent that the distant audiences have an advertising value to the originating stations, and (d) these stations have less power in the political arena than those in the larger markets—hence, their voices have not been as loudly raised or as widely heard.

<sup>8</sup> FCC, Staff Report, "The Economics of the TV-CATV Interface," July 15, 1970, p. 28. Henceforth referred to as *Staff Report*.

<sup>9</sup> According to Park's analysis (Table 4.1), the average annual advertising revenue generated by a home in which television is watched 60 percent of the time during prime time is roughly \$26. (His figure of \$43.20 multiplied by 60 percent is equal to \$25.92). If we assume that cable subscribers in this small market devote half of their watching time to distant signals, then the value of those signals to the local broadcaster for advertising purposes is about \$13—hardly more than the \$12 figure estimated above for the cost of commercial substitution.

<sup>10</sup> The \$12 figure, derived from the overall annual cost of \$50,000 estimated above, does not include any proration of the equipment cost at the originating broadcasting station required to transmit coded signals to trigger the switcher computer, nor does it include the cost of film or video tape carrying the locally sold advertising. In addition, if the equipment operates say 16 hours a day, 7 days a week, and if one technician is required full time, then at least three technicians rather than two would be required. Of course, in the longer run, technological advances and higher levels of automation may drive down these costs.



*the commercial-substitution plan is least likely to work in those markets most seriously threatened by cable.*

## THE PROBLEM OF CAPRICIOUS DISTRIBUTION OF BENEFITS

Even if the growth of cable will not actually harm UHF (as shown by Park's analysis), the commercial-substitution scheme is appealing in that it offers a source of revenues that would "affirmatively promote" UHF. Since the revenues would come from additional advertising revenue, and since the benefiting local advertising stations would bear the substitution costs, UHF development might be assisted with no burden on either cable operators or subscribers.<sup>11</sup>

The problem here is that the extent to which particular broadcast stations are affirmatively promoted depends largely on factors having nothing to do with whether, in the public interest, these particular stations ought to be helped. Take the case of a UHF station operating at a loss in major market "A." In accordance with the commercial-substitution plan, this station would have the opportunity to advertise on the distant signals carried by cable systems operating within its local market. However, let us say that the cable systems in its local market are numerous and scattered, since the area, in addition to a major city "A," consists of assorted suburbs and small towns each having separately franchised cable operators. Moreover, even within city "A" several franchises are operating in various geographical locations. Distant signals are brought from market "C," which is near enough to market "A" to permit all cable systems in market "A" to pick up the signals over-the-air rather than by microwave feed. In this case, the UHF station finds, to its regret, that it has little to gain by selling advertising on the incoming distant signals. Equipment of the sort listed earlier would have to be installed at each headend, or

all the systems interconnected into a single network. In either case, after taking account of the additional advertising-selling expenses as well, the station operator finds that the overall costs of commercial substitution equal or exceed the additional advertising revenues.

Take another case: a UHF station in market "B" also suffering a loss. However, it is much luckier than the station in market "A." Distant signals, coming from market "D" several hundred miles away, must be fed into local cable systems by microwave relay rather than by over-the-air pickup. By installing one set of commercial-substitution equipment at a microwave terminal, the station is able to cover virtually all cable subscribers within its market. Moreover, since the distant signals from market "D" are quite popular in market "B," the station finds commercial substitution a most attractive venture—enormously profitable, in fact, since the UHF station *pays nothing* for the incoming, widely popular programming. (Had the station itself broadcast the same programming, it would have been subject to full copyright liability!) The station's owners are pleased that their business interests have been so "affirmatively promoted" by the FCC's plan.

To go a step further we find that, according to the FCC's priority list, in markets with no UHF stations, VHF stations (including network affiliates) would have the right to substitute advertising on the distant signals. According to the rotation scheme proposed by the FCC, they would presumably share these revenues equally. Here again, the size of these revenues would bear little relation either to the impact of cable on each particular station or to the relative profits of the stations participating in the plan. Highly profitable VHF stations, along with the marginal ones, would get their share of the revenue.

Perhaps in anticipation of these kinds of problems, the Commission does specify in its priority list that "any local station, upon special showing of a threat to its viability or its ability to adequately serve the public, will also be given the right to provide their commercials for substitution." Moreover, the Commission goes on to state, "the station need not wait for impact resulting from CATV to seek such relief, but may do so at any time, by the submission of an appropriate detailed showing." Unfortunately, this provision opens a hornets' nest: how is the appropriateness of a detailed showing to be judged, especially since the station "need not wait

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<sup>11</sup> Who pays for the equipment and other costs associated with deleting and substituting commercials is not clear. The Commission notes: "As to costs, our present view is that the cost of the switching and related equipment should be borne by those stations which benefit from the commercial substitutions." But the Commission goes on to say, "However, we specifically call for comment on whether the CATV system should not be called upon to either bear the costs or else to share them substantially," *Second Further Notice*, paragraph 10.





for impact resulting from CATV to seek such relief"? What are the ground rules for deciding whether the ability to adequately serve the public has been compromised? If a network-affiliated VHF station qualifies for relief under this provision, does it share equally with UHF stations higher on the priority list, or would it take a larger share if the UHF stations cannot demonstrate that *their* viability or ability to adequately serve the public has been jeopardized?

It is dismaying to contemplate the extended hearings, delays, and controversial decisions that would arise out of the operation of this special provision. The Commission faced a similar situation when it instituted the special hearings-and-waiver procedure for the import of distant signals into the top 100 markets in accordance with its *Second Report and Order* mentioned previously. The procedure quickly bogged down, to the frustration of practically everyone, and was eventually abandoned. What is much needed is a set of clear-cut, relatively unambiguous rules that are sufficiently well-conceived that they do not require such escape clauses.

The point, again, is that the benefits of commercial substitution are distributed fortuitously. Whether a particular station gains depends on the cost of commercial-substitution equipment, the configuration of cable systems that happen to lie within its local market, the geographical proximity of that market to other markets from which distant signals are brought, and so forth. Some stations would gain nothing, while others would enjoy windfalls.

Finally, one might argue that the commercial-substitution scheme is attractive at least in helping to ensure that commercials seen by local cable subscribers are relevant to their own interests. (That is, nothing would be gained by the cable subscriber in Phoenix viewing distant-signal programming carrying Los Angeles used-car advertisements.) Alas, even this argument is breaking down. As cable continues to grow and as distant markets become increasingly attractive to originating stations, they will undoubtedly tailor their advertising appeals more and more to regional and national, rather than to local, advertisers. For example, the broadcasting station in Los Angeles, learning over time that an increasingly large proportion of its total audience is drawn from cable subscribers in distant markets, will slant its advertising away from products only sold locally and

toward products sold regionally and nationally. At the same time, local advertisers may be attracted to buying time on local-origination channels of cable systems, as well as on broadcasting stations whose signals are not in strong demand in distant markets.

## THE QUESTION OF PERVERSE INCENTIVES

A third major aspect of commercial substitution relates to its effects on the behavior of broadcasters benefiting from it. Would the opportunity for large revenues derived from advertising on incoming distant signals sharpen or blunt their incentives to do a good job in local broadcasting? (We shall judge a "good job" in terms of such things as presenting, during prime time, perceptive local news coverage, other local affairs, cultural and educational programming and entertainment programming of high quality—all in contrast to the mornings, afternoons, and evenings of old movies and reruns of canned, nationally syndicated fare.) In response to this question, one can offer two views.

### The Pessimistic View

One can argue that incentives would be blunted because the large potential revenues (at least in some markets) from commercial substitution would (a) distract broadcasters away from their responsibilities in local broadcasting and toward the more remunerative task of selling advertising on distant signals, and (b) attract into the industry entrepreneurs who have no deep interest in local broadcasting, but who wish to establish their "rights" to commercial substitution.

Generally speaking, the problem worsens (a) the smaller is the number of stations having a right to insert commercials in a given local market, (b) the more popular are distant signals in that market (in terms of the proportion of viewing time), and (c) the higher is the level of cable penetration in that market.

More specifically, suppose that the market contains only one UHF station (either independent or network-affiliated). According to the Commission's proposal, this station would have the sole right to advertise on incoming distant signals (subject to whatever application might be made of the escape



clause mentioned earlier). Suppose that the station is in a large market where there are two or three interconnected major cable systems serving a total of 100,000 subscribers. Here the potential revenues could be quite large and essentially independent of how good a job the station does in its local broadcasting. If we take Park's figure of \$26 per home as the average advertising value to the television industry<sup>12</sup> and assume that cable subscribers in this market watch distant signals one-third of the time, the advertising value of commercial substitution to the UHF station would be roughly \$8 annually or \$800,000. If we subtract \$200,000 for equipment,<sup>13</sup> adjusted gross revenues would be \$600,000—an amount easily as large or larger than the station's gross revenues from local broadcasting!<sup>14</sup> After subtracting advertising sales expenses from the \$600,000, the station operator might still have a *net* profit far exceeding anything he could expect in broadcasting itself.

The UHF station owner may reason that his broadcasting activities have dim long-run prospects. In any event, in competing with powerful network VHF stations in his local market, he will have a continuing UHF handicap in serving viewers who are not cable subscribers. Moreover, he is required to pay full copyright for any attractive programming he carries over the air, and the cost of this programming is high. Or to express it differently, the competing VHF stations are able to outbid him for the best programming.

With the possibility of commercial substitution, however, his world changes. Here, without paying any copyright, he has access to attractive programming carried to cable subscribers over four distant signals. With the future of UHF not being all that bright (he might reason) and with advertising on distant signals so profitable, why not simply continue doing a token job of local broadcasting and live off the distant signals?

At the present time there are 26 markets in the top 100 where only a single commercial UHF station operates (in addition to the VHF stations). Presuma-

bly, these UHF stations would have first crack at commercial substitution on distant signals. Moreover, were all authorized UHF stations actually operating, 29 of the top 100 markets would be left with a single UHF station. If all UHF channels allocated in the top markets were actually in use, eight markets would have only one UHF station, 32 would have only two stations, and another 33 would have only three.<sup>15</sup> Even if commercial substitution were shared by two or three UHF stations in these markets, the potential revenues would still be large, especially if these stations were to cooperate in the use of commercial-substitution equipment.

## The Optimistic View

The optimistic view can be expressed more briefly, because it uses much of the same reasoning as above—except in a different light. One can argue that the FCC can more easily encourage or force the station to do a better job in local broadcasting precisely because it *does* enjoy large revenues from an independent source (that is, from advertising on distant signals). Many UHF stations do not provide high-quality programming or presentations catering to local community needs (especially during prime time), since the programming is expensive and has only a very limited audience appeal. To shift toward these kinds of programming and away from the old movies and syndicated materials would entail *even larger losses* than the stations already suffer. Under these difficult circumstances, the FCC can do little to promote better performance.

However, if the station has a large independent source of revenue, it would have less excuse for not expanding its unprofitable operations over the air. Here, the Commission would have greater leverage or bargaining power in encouraging or forcing better performance.

## The Role of the Commission

The extent to which either of the above views is valid hinges crucially on the willingness and the ability of the Commission to exercise leverage and bargaining power. Recognizing the potential danger of perverse incentives, the Commission states:

<sup>15</sup> *Staff Report*, tabulated from Table 1.

<sup>12</sup> See above, footnote 9.

<sup>13</sup> To be conservative, we quadruple the equipment and operating cost shown in Table 1 to derive the estimate of \$200,000.

<sup>14</sup> In 1968, 154 UHF stations reported total revenues of \$90.9 million, or an average of about \$600,000 (FCC, *TV Broadcast Financial Data*, 1968, Table 2). Park estimates an average revenue of \$568,000 for the 47 independent UHF stations in his sample.





If experience shows that there is a problem in this respect, it can be remedied by a number of devices (e.g., requiring a high power, tall antenna UHF operation, etc., within a certain number of years as a condition of continuing the commercial substitution privilege; redistributing the commercial substitution privileges to other local stations in the market, etc.). Indeed, after the passage of time, the plan would of course be subject to reevaluation, and possibly the other local stations would be allowed some participation in the commercial substitution arrangement, if the UHF stations were then on a solid footing.<sup>16</sup>

On the basis of past regulatory experience, one has reason to be pessimistic about the Commission's being able to move quickly and effectively. It is easy enough to say that the Commission could require stations to operate at higher power or that it might allow other local stations "some participation." But in the absence of clear-cut quantitative criteria, who

is to decide, and on what basis, whether a particular station is doing a good enough job to merit the right to participate in the commercial-substitution scheme? Especially worrisome is the potential involvement of the Commission in prescribing program content—an involvement flowing from judgments about broadcaster performance as means of deciding who is and who is not to participate in the commercial-substitution plan. This eventuality would raise in a new and disturbing form the question of government control over program content.

If one thing is clear from history, it is that the Commission has an extraordinarily difficult time influencing the behavior of stations in ways contrary to their private profit-making interests. Once rules are established, vested interests grow through time on the basis of these rules, and it is not easy to change them. Clearly, in designing well-conceived policies one needs rules that by their nature lead the regulated firms in the right direction without recourse to qualitative judgments by the Commission—and the resultant hearings, waivers, and confusion as to who has the right to do what.

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<sup>16</sup> *Second Further Notice*, paragraph 8.



### III. THE ALTERNATIVE OF DIRECT COMPENSATION

The Commission emphasizes that its proposal is no more than tentative:

We stress that it is just that—a proposal which must pass the test of scrutiny and analysis in this rule making process. If feasible, it appears to hold great promise for the public interest, and therefore we are duty-bound to explore it.

The Commission goes on to note, "Finally, it may be that there are other alternatives which should be considered here." The Commission suggests several possibilities, including "...a system of payments to the UHF and ETV by the CATV system."<sup>1</sup> This possibility of direct payment is explored below.

If broadcasting merits protection, it seems preferable simply to have the cable operator compensate local station owners directly in accordance with the reduction in their audiences actually suffered as a result of cable. Although not without its problems, direct compensation could be implemented in a tolerably satisfactory manner without encountering the more serious drawbacks of the commercial-substitution approach discussed above.

#### THE MECHANICS

The direct-compensation approach devised here involves three major elements:

- Computing the "audience loss" suffered by the local broadcasting station, measured by the difference between its share of the cable audience and its share of the non-subscriber

audience within the geographical area covered by its signal.

- Multiplying this loss by the "value of audience" factor reflecting the advertising value to the station of a "television home."
- Taking into account a "financial qualification factor" under which particular stations suffering an audience loss would be compensated (or not) according to their profit positions in the face of cable growth.

To illustrate, let us consider a four-station market with one independent UHF station (operating at a loss) and three network-affiliated VHF stations. Within the franchise area of cable system "A" it is determined by a sampling technique that cable subscribers and non-subscribers view the four signals in the percentages shown in Table 2. In accordance with Park's conclusion that the local UHF station is not hurt by cable, the audience share of the UHF station stands at 15 percent for cable subscribers and 10 percent for non-subscribers. VHF stations, however, suffer some audience loss—shown in the right-hand column of Table 2—as a result of subscribers' having access to distant signals.

Next, we must specify the "value of audience loss." For the moment, let us simply take the overall national average value of a television home to the television industry for advertising purposes. As noted earlier, Park computes this figure at roughly \$26 annually. Thus, for each cable subscriber the annual revenue loss to VHF 1 would be about \$2.60 (the 10 percent loss of subscriber viewing time in Table 2 multiplied by \$26.00); to VHF 2, \$2.08; and to VHF 3, \$3.90. Or, to express it differently, the value of the non-subscriber to VHF 1 is equal to 25 percent (its share of audience in Table 2) of \$26.00, or \$6.50; the value to the same station of a cable subscriber is only 15 percent of \$26.00, or \$3.90; and

<sup>1</sup> *Second Further Notice*, paragraph 18. ETV stands for Educational (i.e., non-commercial) Television.





the net revenue loss to the station is \$6.50 minus 3.90, or \$2.60, as above.

Table 2

ILLUSTRATION OF IMPACT OF CABLE ON BROADCASTING

Station	Shares of Viewing Time		Audience Gain (+) or Loss (-) <sup>a</sup>
	(1) Cable Subscribers (percent)	(2) Non- Subscribers (percent)	
UHF	15	10	+5
VHF 1	15	25	-10
VHF 2	22	30	-8
VHF 3	20	35	-15
Distant signals	28	0	+28
	100	100	

<sup>a</sup> As a percentage of total viewing time by cable subscribers (Col. 1 minus Col. 2).

Finally, we must delineate the "financial qualification factor" that determines the extent to which these stations are to be compensated for audience losses. There are at least three alternatives:

1. A rule could be established specifying that only those stations suffering overall financial losses qualify. Let us suppose that both VHF 2 and VHF 3 continue to make profits, though at reduced levels, while VHF 1 suffers a fall in revenues such that it now takes an accounting loss along with the UHF station. In this case, only VHF 1 would receive a payment from the cable operator, since in our example it is the only one of the four stations that suffers both an audience loss and an overall financial loss. The operator of cable system "A" would therefore pay to VHF 1 a total of \$2.60 per year for each of his subscribers, as computed above. If his gross annual revenue per subscriber is \$60 (roughly the national average), the payment would run to less than 5 percent of his total revenue.

2. In response to alternative 1, other stations might complain that their audience is also being reduced by the growth of cable and that, although they still enjoy positive profits, the quality of their programming is compromised and their ability to render public service is weakened. (Here they could point to Park's conclusion that, in general, the larger a station's revenues, the larger also both the number of hours and the amounts of money spent by the

station on local programming.<sup>2</sup>) Also, the all-or-nothing compensation approach of alternative 1 may lead to perverse incentives. A station owner might be encouraged to suffer some small accounting loss in order to qualify for a relatively large payment from nearby cable operators.

In response to these problems, a rule could be established specifying that *all* broadcasters suffering audience loss as a result of cable would qualify for compensation. In this case, the cable operator would pay not only \$2.60 per subscriber per year to VHF 1, but also \$2.08 to VHF 2 and \$3.90 to VHF 3—for a total of \$8.58 per subscriber per year. The troubling question here is whether stations that earn high profits even in the face of cable growth ought nevertheless to be compensated at the expense of the cable operator, and ultimately at the expense of the cable subscriber.

3. As a compromise, a "sliding scale" rule could be established. The amount of compensation would be adjusted not only by the relative viewing "split" between cable subscribers and non-subscribers, but also by the level of profit enjoyed by the station in question as a percentage of its revenues. Stations that suffer overall financial losses would continue to be fully compensated as in alternative 1, while those suffering positive though reduced profits would obtain partial payment on a sliding-scale basis, as shown in Fig. 1. This schedule indicates that if a station earns zero profit, it receives 100 percent compensation based on the \$26-per-year figure, while a station earning a profit of 5 percent of total revenue would have its compensation reduced by 50 percent and a station earning as much as 10 percent of annual revenue would receive nothing. Since VHF 1 suffers an accounting loss, it would be paid the same amount (\$2.60 per subscriber) as before. If VHF 2 has profit equal to 5 percent of gross revenues, it is paid \$1.04 instead of the \$2.08 computed above. If VHF 3 has profits of 15 percent of revenue, it receives no compensation, despite the fact that it suffers some audience loss. While its audience has been reduced somewhat by the growth of the cable, its profit margin is nevertheless such that it deserves no special consideration. Altogether, the operator of cable system "A" would annually pay \$2.60 per subscriber to VHF 1 and \$1.04 to VHF 2, for a total of \$3.64, or about 6 percent of his total

<sup>2</sup> *Impact of Cable Television*, pp. 48-60.





revenues of \$60 per subscriber per year. Other cable systems operating in this area, in addition to system "A," would pay in accordance with the same schedule and the audience split shown by sample surveys in their own franchise areas.

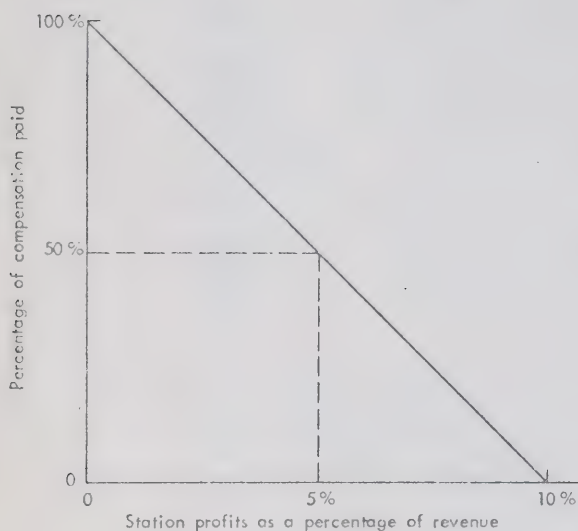


Fig. 1—Hypothetical sliding scale of compensation

(Negative profits would also qualify the station for 100% compensation)

An advantage of the sliding-scale approach is that it gives recognition to the fact that some profit is necessary to maintain an adequate quality of service in the public interest. At the same time, the sliding scale avoids the troublesome alternative of compensating stations that remain highly profitable even in the face of widespread cable penetration.

## AN EXAMPLE DRAWN FROM THE SAN DIEGO MARKET

To gain a better idea of the magnitude of payments that might, in fact, be made by cable operators to broadcasting stations, let us turn to actual audience survey data in the San Diego market, as compiled for the FCC, and compute the hypothetical payments that would be made by a cable operator under this direct compensation plan. Columns 2 and 3 of Table 3 contain the overall audience shares for a

number of local and distant stations in the San Diego market.<sup>3</sup>

Suppose that the audience shared within the franchise area of cable operator "A" is the same as that shown for San Diego in Table 3. The operator would pay nothing to the Los Angeles stations, since, as we would expect, in all cases their proportion of the cable audience is as large as, or larger than, their proportion of the non-cable audience in the San Diego market. (For example, Los Angeles station KNBC has 4.1 percent of the cable audience of operator "A," but only 3.1 percent of the non-cable audience in the same area.) It is also noteworthy that station KCST, which is a local independent UHF station, *also* has a larger audience share on cable than outside it—a result consistent with Park's conclusion that independent UHF stations will be helped rather than harmed by cable. The only stations suffering audience losses as a result of cable are the three local network affiliates: XETV, from 25 percent down to 16.5 percent; KFMB, from 31.2 to 22.7; and KOGO, from 31.2 to 24.8. Their losses of viewing time among cable subscribers are respectively 8.5, 8.5, and 6.4 percent of the total viewing time of subscribers, shown in the last column of Table 3.

Since we do not have access to the individual financial statements of the stations, we cannot apply a hypothetical financial qualification test to determine which, if any, would qualify for compensation. Therefore, as an extreme case let us assume that *all* three qualified for full compensation. Using the \$26 figure as the compensation factor, the cable operator would pay 8.5 percent of \$26 to station XETV, 8.5 percent of \$26 to KFMB, and 6.4 percent of \$26 to KOGO, for a total of \$6.08 per year per subscriber. More probably, the operator would pay less than that amount, since one or more of these affiliates are likely to be making sufficient profit to render them eligible for only partial or no compensation, in accordance with the sliding-scale approach described above. The point is that *even if all did qualify for full compensation*, the figure of \$6.08 per year, amounting to about 10 percent of typical per-subscriber annual revenues, would not appear to be an exorbitantly high amount for the privilege of bringing four distant signals into the local market.

<sup>3</sup> Since these audience shares do not add exactly to 100 percent, we make a minor adjustment to convert them to a base of 100 in columns 4 and 5.



Table 3  
SHARES OF VIEWING TIME BY CABLE AND NON-CABLE AUDIENCES,  
SAN DIEGO, CALIFORNIA  
(ARB February/March 1970, TV Diary Data, Sunday through Saturday)

(1) Station	(2) Cable Audience Share* (percent)	(3) Non-Cable Audience Share* (percent)	(4) Cable (percent)	(5) Non-Cable (percent)	(6) Audience Gain (+) or Loss (-) <sup>a</sup> (percent)
XETV <sup>b</sup>	16	24	16.5	25.0	-8.5
KFMB <sup>b</sup>	22	30	22.7	31.2	-8.5
KOGO <sup>b</sup>	24	30	24.8	31.2	-6.4
KCST (UHF) <sup>b</sup>	3	2	3.1	2.1	+1.0
KABC	8	2	8.2	2.1	+6.1
KTTV	6	—	6.2	—	+6.2
KCOP	7	2	7.2	2.1	+5.1
KNXT	3	3	3.1	3.1	—
KNBC	4	3	4.1	3.1	+1.0
KTLA	4	—	4.1	—	+4.1
	97	96	100	100 <sup>c</sup>	

\* SOURCE: FCC, Staff Report, "The Economics of the TV, CATV Interface," July 15, 1970, ARB Special Tabulation, p.11.

<sup>a</sup> As a percentage of viewing time by cable subscribers (Col. 4 minus Col. 5).

<sup>b</sup> These four stations are local to the San Diego market. The others transmit from Los Angeles.

<sup>c</sup> Does not add precisely to 100%, because of rounding.

To be sure, this is a highly simplified example. It assumes that cable operator "A" faces the audience-fragmentation factors shown in the FCC's data for the entire county of San Diego in Table 3. Moreover, a number of adjustments and qualifications would have to be made to the direct-compensation approach to make it more applicable to the real world. But before discussing these modifications and qualifications, it is important to point out how the direct-compensation scheme would meet more adequately than does the commercial-substitution plan the FCC's objective of protecting local broadcasting.

## ADVANTAGES OVER COMMERCIAL SUBSTITUTION

### Covering Small Markets

The direct-compensation approach copes head-on with the problem posed by cable in small markets in way that commercial substitution cannot. If the small-market stations are the ones most threatened,

as shown in Park's analysis, then they would receive the largest payments from cable operators.

For example, consider a market in which only one station operates. It has 100 percent of the close-in audience and, if we assume a network affiliation, perhaps it has done fairly well in financial terms. However, with the rapid growth of cable its audience share for cable subscribers falls precipitously to, say, 30 percent. Let us suppose that it now loses a substantial amount of money. In the longer run, let us suppose further that in the absence of relief the station will be forced off the air, to the detriment of those viewers dependent on over-the-air service. Once the appropriate rules were established for direct compensation, the station would receive a substantial payment from cable operators. In the station's close-in area it would receive 70 percent of \$26.00, or \$18.20 annually per cable subscriber. In the station's fringe area, where its signal is poor and the signals of other stations intrude, let us suppose that its non-cable audience share is 50 percent; while its cable audience share is 30 percent. In this case, the cable operators in question would be obliged to pay 20 percent of \$26.00, or \$5.20, per subscriber. In





yet more distant areas, where the station's audience share is very small and is essentially the same for cable and non-cable viewers, cable operators would pay nothing.

Here the obligations of cable operators to compensate broadcasters are clear-cut, regardless of such extraneous factors as the cost of computer switchers, scan recorders, selling advertising, and the other factors involved in deleting and inserting advertising in accordance with commercial substitution. If a station is threatened, as determined by the audience loss in fact taking place and its profit position in the face of this loss, it is compensated in direct proportion to the threat without involving the Commission in case-by-case hearings, special waivers, pleadings, and other time-consuming, frustrating, and frequently counter-productive administrative burdens.

In short, while commercial substitution fails to come to grips with the threat of cable where it seems greatest—in the small markets—the direct-compensation scheme focuses on the problem whenever and wherever it occurs. There need be no regulatory distinction between the top 100 markets and smaller ones.

### Affirmatively Promoting UHF?

The commercial-substitution approach is attractive in some quarters because it may provide an additional source of revenue for struggling UHF stations. Even if cable does not harm UHF, commercial substitution could still "affirmatively promote" UHF by giving it additional revenues (although, as noted earlier, the degree of affirmative promotion works capriciously from market to market, depending on factors quite extraneous to the question of whether particular UHF stations ought to be helped).

The direct-compensation scheme can be criticized on grounds that it does not affirmatively promote UHF. While cable operators are called upon to compensate UHF stations for actual audience loss, there is nothing in the plan to provide UHF with *additional* assistance. UHF stations, as well as the others, receive compensation only if (a) evidence from sample surveys discloses that the station draws a smaller proportion of the cable audience than the non-cable audience within its broadcasting area, and (b) its profit or loss position qualifies it for compensation.

The failure of the compensation scheme to affirmatively promote UHF can be easily defended. Why should cable subscribers, rather than the general public, be called upon to support the continued development of UHF? It is one thing to expect them to pay for harm actually done; it is quite another to require them to contribute additional amounts regardless of the impact of cable on UHF. If it is deemed in the public interest that UHF should receive further support (and that is highly debatable), then the group that would benefit from development—the public at large—should bear the burden.

### The Question of Broadcaster Incentives

A major advantage of direct compensation is in avoiding or mitigating the problem of perverse incentives. Here there is no possibility of the local station's living off the advertising revenues from distant signals. The level of compensation received by the local station is determined by the *difference* between the proportions of viewing time it draws from its cable and from its non-cable audience. If its viewing share is 50 percent of the non-cable audience but only 30 percent of the cable audience within the franchise area of cable system "A," then its compensation from system A would be figured on the basis of a 20 percentage point difference as discussed earlier. If the station subsequently does a poorer job in its broadcasting, its percentages of *both* audiences will fall. If both fall by the same degree (say, one-half), then, in this example, it would be left with only 25 percent of the non-cable audience and 15 percent of the cable audience. Since the audience loss is only 10 percent (instead of 20 percent), the compensation from cable system "A" would also be cut. Combining the value of lost audience with an appropriate sliding scale of payments, the station would still be left with the incentive to expand its over-the-air audience.

However, a potentially serious problem can arise in markets having only one station. In those markets the station's proportion of non-cable audience is, by definition, 100 percent regardless of the quality of its local broadcasting. If it does a progressively poorer job in the face of cable growth, its proportion of cable audience will fall, while its proportion of a non-cable audience will remain at 100 percent. Since the percentage-point difference between the two would rise, its compensation would also rise. Were the station to





do a poorer job, presumably viewers would have an increased incentive either to subscribe to cable or to erect taller rooftop antennas to bring in other signals. In the latter case, the proportion of the non-cable audience would start falling below 100 percent, thereby reducing the audience-loss factor on which compensation is figured. Moreover, and probably more important, the one station would probably be a network affiliate, or would draw from two or three networks, so that the quality of its programming, at least during prime time, would remain essentially constant.

Fortunately, the one-station market case is of only minor importance. Less than 1 percent of television homes are in areas where only one signal is receivable over the air.<sup>4</sup>

### The Problem of Serving Minority Audiences

A station can lose audience in two ways. It can carry ancient movies and endless syndicated re-runs, generally doing a job that would be rated poor in anyone's book. The direct-compensation plan is designed to avoid incentives to such poor performance. Or the station can lose audience by presenting extensive local community coverage, drama and other cultural fare, documentaries and other materials that appeal to only very limited audiences. Since the direct-compensation scheme is directed toward not disturbing the present incentive of stations to increase their audiences, it does nothing to encourage such minority programming.

All that can be said here is that the compensation scheme cannot by itself reconcile conflicting objectives in television broadcasting. If the objective is to protect over-the-air broadcasting from cable growth, then the scheme seems far preferable to the FCC's proposal for commercial substitution. If the objective is to expand the quantity of programming carried over the air to minority audiences, then quite different tools are needed. One is the growth of pay television, under which viewers would directly support programming of the sort unattractive to the advertiser who must depend on large audiences. Another

is the continued growth of non-commercial television not dependent on advertising revenues. A brief discussion of this second approach—expanding non-commercial television—is contained in Section V.

### THE COMPLICATIONS OF DIRECT COMPENSATION

At the same time, the compensation approach described above is oversimplified. We shall briefly note here several complicating factors that would enter into a workable compensation scheme. As we shall see, these factors do not appear to pose insuperable difficulties. The basic problem with the direct-compensation scheme lies not in devising a workable plan but, as we shall see, in ensuring that, once established, the plan is modified (or abolished) in future decades as radically changing circumstances may warrant.

### The Value of Audience

In the preceding example we have used the overall figure of \$26 as the average advertising value of a television home to the industry. However, it is clear that the appropriate factor upon which compensation would be based varies from station to station. Some stations would be compensated too much, others too little, in terms of actual harm done by cable. Obviously, a distinction must be made between stations that broadcast only part-time and those that broadcast full-time. Perhaps a distinction should be made also between network and independent stations. Perhaps the value of loss should be varied as a function of station size (where a loss of, say 1,000 viewers may carry different values for a station with 100,000 viewers than for a station with only 10,000).<sup>5</sup>

Also, the loss of audience, and its value, varies from hour to hour and from day to day. In the San Diego example, we used the average audience figures from station "sign-on to sign-off" for a sample of homes during February and March of 1970. A more satisfactory, though more complicated, approach would involve considering audience losses both during prime time and outside of prime time, with different valuations attached to each.

<sup>4</sup> From a Nielsen national sample in September 1967, cited in "A Study of Distribution Methods for Telecommunications" (Complan Associates) reprinted in *A Survey of Telecommunications Technology Part 2*, President's Task Force on Communications Policy, June 1969, PB 184413, Department of Commerce Clearing House.

<sup>5</sup> In fact, Park's study, Table 4.2, indicates that the advertising value of a given increase in audience is greater for a small station than for a large one.



More generally, we have the familiar problem that the greater the exactness of the estimates, the greater the complications and administrative burden. To be sure, no single figure for the industry as a whole or for any class of station can provide an *exact* measure of the value of audience to each station. The best we can hope for is a tolerably good approximation, bearing in mind the importance of avoiding a complicated procedure that leads to the costly and time-consuming hearings, special appeals, and other frustrations of the sort noted earlier.

## The Financial Qualification Factor

In the preceding examples, we presumed use of some kind of sliding scale, as shown in Fig. 1, in determining which stations are to be compensated, and by how much. This factor, too, necessarily contains arbitrary elements. If we say that no station with profits exceeding 10 percent of revenues ought to be compensated, then one must surely expect complaints from stations making 11 percent.

Here we have the problem, faced everywhere, of where to draw the line. If it is generally agreed that the compensation scheme is desirable in principle, arriving at reasonable rules regarding the qualification factor should not be a major stumbling block.

## The Cost of Audience Surveys

While the direct-compensation approach does not involve the equipment and operating costs of commercial substitution, it does rely on audience surveys that also cost money. Fortunately, periodic surveys are already generally available in most markets. For purpose of selling advertising, broadcasting stations already subscribe to survey reports to determine how well they are doing relative to competing stations. In cases where there is substantial cable penetration in the station's markets, the relative viewing habits of both subscribers and non-subscribers can be estimated.

Problems may arise in cases where cable penetration is so low in the market, or where the geographical area of a cable franchise is so small, that an adequate sample from subscribers is not picked up in the conventional survey. To meet this problem, several possibilities come to mind:

- An additional, more intensive periodic survey, financed by cable operators, could be made of cable subscribers. Not only would the survey be valuable for the compensation scheme, but it would also aid the cable operator himself in determining which of his channels are more popular than others and, in particular, in providing the basis for selling his advertising on his own origination channel.<sup>6</sup> Even if the compensation scheme were not an issue, we would expect many cable operators, in their own business interests, to finance such surveys.
- In some cases, the cable operator, choosing to avoid the cost of special surveys, might rely on larger surveys extending beyond his franchise. For example, data of the sort in Table 3, covering all of San Diego county, might be deemed adequate for a cable operator holding only a small franchise area within the country, despite the fact that the county audience split varied somewhat from that in his own small franchise area.
- An exemption from the compensation scheme could be granted to cable systems that fall below a specified low percentage (say 10 percent of the homes in its franchise area) or below a specified number of total subscribers (say, 1,000). In this way, very small systems, whose subscribers would probably not be adequately sampled in conventional surveys but, at the same time, would have little collective impact on broadcasting, would need not share the cost burden of special surveys.

## Biases in Favor of Broadcasters

In three respects, the direct-compensation plan carries biases in favor of broadcasters. First, it does not take into account the value of distant audiences to local broadcasting stations whose signals are carried by cable into those distant markets. While the local audience of a broadcasting station may be reduced by cable, as shown in the earlier examples, the station may simultaneously gain by the carriage of

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<sup>6</sup> According to the FCC's *First Report and Order*, Docket No. 18397, any cable operator serving more than 3500 subscribers must originate programming, beginning no later than April 1, 1971, on one of his channels, and he is permitted to sell advertising on that channel.





its signal—including its advertising—into distant markets. Quite possibly, a station whose signal is popular on distant cable systems could gain, on balance, from cable growth, yet, because of losing *local* audience to local cable systems, will still qualify for compensation from those local systems.

In principle, the computation of audience loss in our earlier examples could be extended to include the addition of audience via cable carriage into distant markets. But, in practice, it would be difficult to estimate the value to the local station of these audiences. Their value is greater than zero but less, per household, than the value of the station's own local audience. A wide range of variation is involved, depending on geographical distance, the nature of the advertising carried by the local stations, and other factors.

A second bias concerns the fact that stations gaining local audience from cable (as Park estimates will happen for many independent UHF stations in major markets) are *not* expected to pay the cable operator, while the cable operator *is* expected to pay stations that qualify for compensation if they lose audience. In principle, the cable operator should either pay or *be paid* in accordance with the extent to which he hurts or helps the stations. But as a practical matter the idea of reciprocal responsibility would face rough sledding in gaining wide acceptance—especially since the stations that would end up paying cable systems would probably be the independent UHFs that the FCC has been trying to promote, and since many of them would still be losing money, even counting the increased audience from cable. Within today's regulatory environment, the concept of reciprocal responsibility is simply too foreign to rank as anything more than of academic interest.

The third bias concerns the possibility that cable subscribers may watch television more hours per week, as a result of the additional channels, than do non-subscribers. Even if a local station suffers a reduction in the percentage of time during which subscribers watch its signal relative to non-subscribers, the *number* of hours subscribers watch its signal may fall by less than this percentage reduction—or it could even rise. For example, if cable subscribers watch the station signal only 20 percent of their viewing time, while non-subscribers watch it 30 percent of their viewing time (indicating a 10 percent loss of viewing time by subscribers) the station may nevertheless suffer no revenue loss if subscribers

watch television many more hours per week than do non-subscribers.<sup>7</sup>

However, the critical question is whether any increase in viewing by subscribers is due to the presence of cable, with its additional signals that may attract additional viewing, or simply to cable subscribers' being persons of the sort who like television and therefore would watch more of it than other classes of viewers, either in the presence or in the absence of cable.

Unfortunately, data are not sufficient at this time to determine the extent to which cable subscribers watch more than non-subscribers, or, if in fact they do, whether the explanation lies in the first or the second point above. It would be useful to analyze the viewing habits of a given group of people before and after they subscribe to cable service. According to an FCC study, the only available evidence (drawn from Pueblo, Colorado) shows inconclusively that there is little change in total viewing. More general comparisons between subscribers and non-subscribers, including experience from Canada, also suggests little or no change in total viewing as a result of cable penetration.<sup>8</sup> This fragmentary evidence indicates that the bias of concern here is weak, if it exists at all. Of course, more study is needed. If a strong bias eventually appears, the compensation scheme could be adjusted accordingly, though at the expense of additional complexity.

As a practical matter, the direct-compensation approach, even allowing for the three biases noted above, has the potential of operating tolerably well to meet the basic FCC objective of protecting broadcasting from cable growth. Of course, refined analysis of the sort described above could be introduced to reduce or eliminate these biases. But a serious question arises as to whether it would be worth the additional complexity. In one sense, inclusion of these biases might assist in implementing the plan of direct compensation. It can confidently be anticipated that broadcasters would generally oppose the direct-compensation scheme (or, for that matter, the com-

<sup>7</sup> More precisely, the station would not suffer a loss if the percentage increase in viewing time of the station's signal by non-subscribers (in the above example, a 50 percent increase in going from 20 to 30 percent) is exceeded by the percentage increase in the average number of hours spent by subscribers watching television (here, if the number of hours watched by subscribers exceeds by 50 percent the number of hours watched by non-subscribers.)

<sup>8</sup> *Staff Study*, pp. 11-15.





mercial-substitution scheme or any other approach that would effectively open the major markets to wide-spread cable penetration). The inclusion of these biases in favor of broadcasters in the compensation plan would, presumably, help to reduce their opposition to it.

## THE DIFFICULTY OF MODIFYING OR TERMINATING THE PLAN

All in all, the preceding complications seem not to be serious. Despite the biases in favor of broadcasting, the difficulties of measuring the advertising value per home, and the problem of establishing the financial qualification ground rules, the direct-compensation approach seems clearly superior to commercial substitution as proposed by the FCC.

However, there is one problem with direct compensation—a problem shared with the commercial-substitution plan—which *does* seem more serious: that of ensuring that the plan can be modified or terminated in the face of radically changing circumstances in future years. The danger of direct-payment schemes of this sort is that they are likely to continue long after their basic rationale has disappeared (it is instructive—and sobering—to recall the history of the agricultural price-support programs dating from the 1930s). Once a payment scheme is adopted, newly vested interests develop over the years and, supported by tradition and inertia, make it difficult or impossible to end the scheme in the face of changed circumstances.

Hence, one can easily imagine a plan that in the early years properly compensates broadcasters along the lines described above, to assure a substantial amount of local broadcasting serving sparsely populated areas uneconomic to cable. In later decades technological advances may make economically feasible service even to these sparsely populated areas. Moreover, new unconventional television services (such as facsimile mail, and shopping) may eventually become attractive over cable. With

such developments, it is not out of the question that cable could achieve a penetration approaching 100 percent. Yet, under the direct compensation scheme outlined above, the local station could continue to be compensated for its audience loss even if 99 out of 100 homes within its broadcasting area are served by cable. Here the station would be operating, in effect, as a program originator serving cable systems, since virtually its whole audience would be watching its signal on cable. The right to continue compensation would flow from the fact that it simultaneously operates a transmitter to generate an over-the-air signal—but one that serves little useful purpose. The situation becomes all the more anomalous when one considers the strong possibility that other cable program originators—those who do not generate an over-the-air signal—may be *paying* the cable operator for leasing channel space on his cable, in accordance with common-carrier use of cable that the FCC has already gone on record as encouraging.<sup>9</sup>

A similar problem arises with the FCC's commercial-substitution plan. The local station would have the right to advertise on any incoming signals originated by distant broadcasting stations. Even if, in later decades, its over-the-air audience were tiny (with, say, 95 percent of its local audience watching its signal over cable), the local station could continue to enjoy substantial revenues from these outside sources.

It is easy enough to say that perhaps either plan should be subject to a specific termination date, such as five or ten years. And it is easy enough to say that the Commission can modify or abolish the plan in the coming decades in accordance with changing circumstances. The nagging concern, however, is that either plan, once started, would give rise to pressures leading to indefinitely continued operation that becomes progressively further out of tune with the changing needs of society.

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<sup>9</sup> See *Notice of Proposed Rule Making and Notice of Inquiry*, December 13, 1968, paragraphs 12 and 26.



## IV. CHOICES OPEN TO THE COMMISSION

### THE ALTERNATIVE OF NO FORMAL PROTECTION

In light of the problems and complications associated with both commercial substitution and direct compensation in the preceding discussions, we should inquire into the consequences of permitting distant signals without any formal protection accorded to broadcasting. If the FCC were to allow the import by cable systems of, say, four distant signals without special provisions in the interest of broadcasters, what would be the effect on the welfare of the viewing public—both cable subscribers and non-subscribers?

As we have seen, within the foreseeable future, independent UHF in the major markets is likely to be helped. In the same markets, network affiliates and independent VHF stations may suffer a reduction in revenue, some of which will be at least partially offset by additional revenue derived from distant markets into which their signals and advertising are carried. So far as the consequences for the non-cable viewer are concerned, whatever harm accrues in the larger markets will be largely in terms of reduced expenditures for programming, including local programming oriented to community needs. (The other effect, of course, is simply to reduce broadcaster profits; but insofar as these profits are extraordinarily high for many stations today in major markets, their reduction would have little effect so far as the *public* welfare is concerned.)

In the smaller markets, many stations may be reduced to the status of satellites operated by stations in larger markets, as satellite stations now operate in some areas of the country. However, because stations in these markets are network affiliates, over-the-air viewers would continue to have access to basic network diet. Whatever loss accrues would come from the elimination of locally produced programming that the stations would otherwise have

carried. Conceivably, still other stations in these smaller markets will be forced entirely off the air. The reduction in their audience could be so great that they could not continue even in satellite status. Viewers would be deprived of all programming, both network and non-network, that the stations would otherwise have carried.

A question immediately arises as to the likelihood of the above events. These may be interesting and important possibilities, but we do not know with any degree of confidence how many stations in the smaller markets would be reduced to satellite status, or how many would be forced off the air. Nor do we know with confidence the size of the reduction in programming expenditures in the larger markets.

### THE ROLE OF COPYRIGHT

Much of the uncertainty lies in the eventual arrangements for copyright to be paid by cable operators for programming they carry on their distant signals. There has been an unfortunate tendency in past debate to treat the problem of protecting broadcasting and the problem of copyright as two entirely independent issues. But they are closely related. As discussed at length in the earlier Rand study, payments by cable operators for programming could have a major impact on broadcasters as well.<sup>1</sup> If cable operators pay substantially for programming, they will, in effect, be sharing the cost of programming with broadcasters, to the benefit of both. In the same way that payments by theater owners for movies reduce the amounts that television stations would otherwise have to pay for these same movies, payments by cable operators can reduce the cost of programming to broadcasters. Since the cost of programming is a large part of the total cost of broad-

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<sup>1</sup> *The Future of Cable Television*, pp. 68-73.





casting, these reductions could be significant. In other words, even if broadcast revenues fall as a result of cable growth, costs may also fall as a partial offset. Stations that one might expect to go off the air in the face of a large revenue reduction may nevertheless continue to operate, because their costs over time also fall.

On the other hand, were cable systems permitted to bring distant signals into major markets without paying any copyright (as they are now permitted to do in smaller markets), then the effect on broadcasting would be more severe. In this case, the possibilities for sharing programming cost would be more limited.<sup>2</sup> The carriage of distant signals without copyright payment could erode the total level of financial support for television programming. On the one hand, to the extent that a local station's audience is reduced as a result of cable growth, its ability to pay for programming would be adversely affected. On the other, the distant signals, carrying advertising of the originating station, serve to expand the audience of that station and therefore enhance its ability to pay for programming. Because local audience is generally more valuable than is the more distant audience, the financial costs of audience lost to the local station are likely to outweigh the gains to the distant station—implying a net reduction in financial resources available for programming. Under these circumstances, were the FCC to permit unrestricted rapid growth of cable based on important "free" distant signals into major markets, the "benefit" of cable growth might well lie largely in providing the public with more channels of worse stuff.

In the earlier Rand study, the conclusion was drawn that the cable operator should be permitted to bring in *any* number of distant signals from *what-ever* sources he chooses, under the condition that he pay full copyright liability for the programming on these signals—i.e., that he pay fees determined by supply and demand in the marketplace. Use of distant signals is only one of several ways that programming can be fed into cable. The operator can originate programming directly, or he can tie into a formal cable network by microwave link or in the not distant future by communications satellite. In

these two cases, there is no question about copyright liability: he would, of course, be required to pay in the marketplace for programming, like other users. In principle, there seems to be no compelling reason why programming on distant signals should be treated any differently.

However, for a number of reasons that cannot be gone into here, cable operators may not become subject to full copyright liability for distant signals. Instead, for at least a specified limited number of signals, they might pay a flat percentage of gross revenues for each signal as specified by legislation. For the reasons discussed above, the higher the fees set, the greater the extent to which cable operators will share programming costs with broadcasters, and the less severe the problem of maintaining adequate over-the-air service in the face of cable growth.

The FCC staff has suggested that a fee of 0.9 percent of gross subscriber revenues would be sufficient to compensate copyright-holders for the carriage of each of four commercial distant signals.<sup>3</sup> Presumably, copyright owners themselves would agree on formulas for subdividing these fees paid by cable operators.

Given the importance of the copyright issue, the question arises as to how the FCC should proceed from this point, in the event that full copyright is not imposed. A leading possibility is to permit cable operators to import up to the four signals proposed by the FCC, subject to whatever statutory copyright fees are eventually set through legislation, but without specific compensation or protection to local broadcasting stations. Paying these fees, cable operators would carry the distant signals "as is," including the advertising of the distant originating station.

Since the statutory copyright fees would, presumably, be set at a level lower than fees ordinarily paid in the marketplace, the limitation on the number of distant signals, as proposed by the Commission, seems reasonable. (On the other hand, if cable operators were to pay fees established in the marketplace then, as argued in the earlier Rand study, there would be no reason to restrict the number of signals to any predetermined level.) The Commission has selected as a maximum four signals, a number that is necessarily arbitrary. No fully satisfactory basis exists for saying whether three or five would be better. The rationale for specifying four signals lies in

<sup>2</sup> Here, sharing of cost would be limited by the extent to which cable operators for their own originations purchase programming that may also be sold by producers to broadcasting stations.

<sup>3</sup> Staff Report, footnote 43.





the Commission's judgment that this number would permit cable to grow substantially in major markets—a conclusion supported by Park's study.<sup>4</sup>

Whatever limitation is imposed, there seems to be no good reason for imposing leapfrogging restrictions, such as specifying that closer stations of a given class must be carried in lieu of more distant stations, or that some of the signals must come from within the state in which the cable system operates.<sup>5</sup> Such additional restrictions would inevitably lead to the burdens of special appeals and requests for waiver. In the light of the questionable benefits of leapfrogging restrictions, a cleaner solution would lie in confining limitations to the number of permissible distant signals, and letting cable operators themselves decide on how they wish to proceed under that general constraint.<sup>6</sup>

In mitigating the potential adverse effects of distant signals carried into the small markets, the Commission should consider two additional strategies:

1. Establishing a compulsory license system for locally originated programming, such that any broadcasting station in the smaller markets would have access free of charge to its choice of whatever locally originated and locally relevant programming is being carried on *any* cable system within the geographical area covered by the station's signal. In this case, a satellite station carrying network programming could also choose whatever it wants that is being originated on cable in its area. Thus, the non-subscriber audience would still have the benefit of at least *some localism*, even if the station operates basically as a satellite of a large distant station.
2. Investigating more broadly the feasibility and desirability of reducing the time period and geographical coverage of exclusivity agreements between program suppliers and commercial broadcasters, at least in the

smaller markets and perhaps in the larger ones as well. Weak stations are threatened not only by cable but also by the stronger broadcasting stations. Up to this time at least, it is surely true that the problem for independent UHF has been not in the growth of cable but in the threat of the large VHF stations that are able to buy the best programming for their exclusive use over long time periods. To the extent that assistance to weaker stations is in the public interest, the freeing up of programming sources by limitations on exclusivity may be an attractive approach.

Despite these measures, some over-the-air viewers may nevertheless be disadvantaged as a consequence of cable service. In facing this problem, the FCC would have to consider how many viewers are so affected, the extent of the loss, and, of course, the *benefits* of the expanded services to those who *do* subscribe to cable. It is unfortunately true that few technological advances in our society can be introduced and fully exploited without harming at least some portion of the society. The growth of air travel places at a disadvantage those who would prefer to travel by train or ship; the widespread use of synthetic fabrics limits the choice of consumers who prefer cotton; the development and widespread use of the transistor likewise handicaps those electronics users who, for their special purposes, would have preferred tube-type equipment. Here, too, the FCC must weigh the benefits to the one group against the harm to the other. In so doing, it must bear in mind that the most serious problems are likely to occur in the smaller markets where cable operators are *already* carrying distant signals and would *continue* to do so under the Commission's proposal.

## DIRECT COMPENSATION

If, nevertheless, the FCC still judges as unduly risky the opening up of major markets to cable without special safeguards for broadcasters, then the next best possibility is the direct-compensation plan extended to both large and small markets. As above, the cable operator would be permitted to carry four distant signals and pay the flat copyright fees. In addition he would stand ready to compensate broad-

<sup>4</sup> Park estimates (Fig. 2.3) that the carriage of four signals into major cities such as Boston and Washington would permit cable eventually to encompass about 40 percent of the homes.

<sup>5</sup> The Commission suggests that of the four signals, at least two must come from within the state. *Second Further Notice*, paragraph 14.

<sup>6</sup> A discussion of the questionable benefits of leapfrogging restrictions is contained in *The Future of Cable Television*, pp. 77-79. The Commission rules pertaining to same-day program duplication, and compulsory carriage of local signals would, presumably, continue in force.



casters in accordance with the framework discussed earlier. (One can only hope that the plan would be quickly modified or abandoned as evolving circumstances warrant, and that the concern expressed on page 19 turns out to be groundless.)

## THE PROBLEM OF EXCESSIVE CONTROL BY CABLE OPERATORS

Concern has been widely expressed that cable operators may gain excessive control, through the large number of channels in their hands, of communication flows to the public. To help ensure diversity of control over communications flows, the FCC, in a recent ruling requiring the large cable operator to originate programming to a significant extent, is proposing to limit his originations to only one channel on his cable.<sup>7</sup> The Commission has also recently decided to prohibit joint ownership of broadcasting stations and cable systems in the *same* market.<sup>8</sup>

If a danger of excessive control exists, either through the cable operator's originating on several cable channels or through his joint ownership of a cable system and a broadcasting station in the same market, then a similar danger exists if he originates on a cable channel and simultaneously brings in signals from distant stations on which he *also* originates as the owner of those stations.

For this reason, the FCC should consider prohibiting the cable operator from bringing in signals from distant stations that he owns. (This does not mean that cable systems and broadcasting stations could not be jointly owned, but only that signals of stations jointly owned with cable systems could not be carried by those cable systems.) The important aspect here is the *control* of programming content. If the cable operator does not own the distant station, his control over the programming content would be reduced, if not eliminated, on that station.<sup>9</sup>

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<sup>9</sup> For the same reason, the FCC should also consider a rule requiring that any owner of a cable network service using microwave or communications satellite links should not be permitted to own cable systems that subscribe to his service.

<sup>7</sup> *First Report and Order*, Docket 18397, October 27, 1969.

<sup>8</sup> *Second Report and Order*, Docket 18397, July 1, 1970.





## V. TREATMENT OF NON-COMMERCIAL STATIONS

In the preceding discussion, we have been solely concerned with cable service *vis-a-vis* commercial broadcasting. In this concluding section, we shall address briefly two important issues with respect to non-commercial (ETV) broadcasting stations: (1) the ownership of cable systems by non-commercial broadcasters, and (2) the proposed payment of 5 percent of gross revenues by cable owners to non-commercial service under the Public Dividend Plan.

### OWNERSHIP OF CABLE SYSTEMS BY NON-COMMERCIAL BROADCASTERS

The recent FCC rule prohibiting joint ownership in the same market, as discussed immediately above, extends to non-commercial stations as well. As the rule is currently interpreted, they too are prohibited from owning local cable systems. The basis for Commission action here is more questionable. Presumably, the situation the Commission seeks to avoid is one where a large broadcaster who already has extensive power in the local market would further expand his control over channels of information to the public by ownership of a cable system. But, alas, non-commercial broadcasters have very little power in their local market; their over-the-air audiences are small and generally of specialized taste. Ownership of local cable systems by non-commercial broadcasters would mean little either way, so far as concentration of power is concerned. Thus, the Commission's reasoning in excluding non-commercial stations is weak.

There is one danger, however, of cable ownership by non-commercial stations—the temptation not to carry programming from distant non-commercial stations competitive with their own. Certainly, diversity of non-commercial programming to the

viewer is an important policy goal. In furtherance of that goal, if the FCC were to relax its prohibition against cable ownership by non-commercial stations, *it should simultaneously consider a rule that cable systems so owned be required to carry at least one outside non-commercial signal in addition to the signal of the local non-commercial station.*

### THE PROPOSED PAYMENT BY CABLE OPERATORS FOR NON-COMMERCIAL SERVICE

A final, notable aspect of the Public Dividend Plan is the proposal that cable operators pay 5 percent of their gross subscriber revenues to support non-commercial service. Although this proposal has been heavily attacked in some quarters, it is not without merit. The payment can most conveniently be viewed as analogous to copyright paid for commercial programming.<sup>1</sup> The earlier Rand study suggested that cable operators be required to pay for non-commercial programming for basically the same reasons that payments should be made for the commercial product—to finance additional new programming.<sup>2</sup>

To be sure, the flat 5-percent fee is somewhat different from the proposed copyright payment for commercial signals. In the latter case, the operator would pay a fee, perhaps 0.9 percent as mentioned earlier, for *each* distant signal he carried, and would retain the option of avoiding the fee by not carrying the signal. Here, he would pay the 5 percent regard-

<sup>1</sup> However, it must be said that the initial justification for the 5-percent payment was not as a kind of copyright but, in the eyes of many, simply as a transparent attempt to gain support for the Public Dividend Plan from the educational community.

<sup>2</sup> *The Future of Cable Television*, pp. 32-33.





less of how many non-commercial signals he carried. However, in the interest of expanding the number of non-commercial signals made available to the cable subscriber, the blanket-fee approach has the advantage of not discouraging the cable operator from carrying them. Were he to pay a fee for *each* such signal, as in the commercial case, he might elect to carry few or none unless the fee were very low; for he might reason that non-commercial signals have less audience appeal than does commercial service, hence less effective in attracting additional subscribers, and not worth much of an additional financial outlay.

The Commission suggests that the 5-percent payment be made to the Corporation for Public Broadcasting "which could in turn distribute one-half to the local ETV station, if there were one."<sup>3</sup> However, if the 5 percent is viewed as a substitute for conventional copyright, the payment should properly go directly to owners or producers of programming actually carried by the cable operator. Perhaps the best procedure would be to split the 5 percent evenly among all the non-commercial signals carried, with the subdivision among specific program producers made in accordance with ground rules similar to those for subdividing commercial fees among copyright-holders, as mentioned in Section IV.

Pursuing further the analogy with conventional copyright, we may conclude that in return for his 5-percent payment, the cable operator should have the right to carry at least one or more distant non-commercial signals, without restrictions on leapfrogging, in addition to carrying the signal of the local non-commercial station. (Under the FCC's proposal, the import of distant non-commercial signals is permitted only if the local non-commercial station does not object.)<sup>4</sup> If special assistance for the local station is deemed to be in the public interest, the FCC might

consider requiring the cable operator to make additional channels on his system available to the local station, either for repeats of programming on its first channel or for additional instructional and educational programming.

In short, diversity in non-commercial programming is no less important that it is in commercial programming. If it is held to be in the public interest that outside commercial signals be permitted on cable systems in competition with local commercial stations, then it is hard to argue that the same should not be true for non-commercial service.

Viewing the ETV payment as a substitute for conventional copyright helps also to address two other points. First, commercial broadcasters have expressed apprehension that if cable operators are called upon to support ETV, they themselves may eventually be required to do the same. However, since the commercial broadcasters do not carry non-commercial programming, no rationale exists for payment so far as the copyright analogy is concerned.

Second, the 5 percent figure appears high when compared with the 0.9 percent or so per distant commercial signal that cable operators may be called upon to pay. However, we must remember that commercial signals also carry the advertising of the distant originating stations—advertising that represents an additional revenue source for commercial program producers. Thus, the situation is not simply that one producer gets a share of 5 percent and another gets a share of only 0.9 percent, but rather that the latter enjoys not only a share of the 0.9 percent but also a share of advertising proceeds—revenues that, after all, are large enough today to provide the financial basis for the entire commercial television industry!

We must conclude by noting that the 5-percent figure is, of course, arbitrary. No satisfactory basis exists for saying that a figure of 4 percent or 6 percent would be better or worse. The central question is whether the public benefits of the payments equal or exceed the cost burden, or, more directly, whether an arbitrary figure is better than none at all.

<sup>3</sup> *Second Further Notice*, p. 5, footnote 11.

<sup>4</sup> More specifically, "CATVs may carry any number of distant non-commercial educational stations if no objection is made by the local educational licensee or permitter at the time he is informed of the system's intention to carry the distant stations, *Second Further Notice*, p. 4.



## VI. CONCLUDING REMARKS

This Report has been confined to a set of narrow but important issues pertaining to the future development of cable and its relationship to U.S. commercial and non-commercial television. As a consequence of past and present-day regulatory policy geared to protecting broadcasting in the major markets, the growth of cable has been restricted largely to outlying areas of the country. The aim of the Report has been to sketch out public policies that would provide a satisfactory basis for substantial cable penetration of major urban markets, without seriously harming over-the-air broadcasting.

In terms of well-conceived future public policy, however, consideration of the issues addressed in this Report is only a first step. Once the door is open to major markets, other serious questions and issues will intrude, as the industry evolves.

One question of paramount importance is the possible long-term effect of cable television on the quality and the diversity of television programming available to the American public. Much has been said about the conditions under which distant signals are to be brought into local markets. But are the offerings to cable subscribers to be confined to a mixture of local and distant broadcast signals carrying standard broadcast fare? Or will channels be made available for a wide range of local originations by the cable operator himself, or by specialized program producers leasing channels from the cable operator on a common-carrier basis? The FCC has already gone on record as favoring common-carrier operations, and it is soon to require that systems in excess of 3,500 subscribers originate programming "to a significant extent." What are to be the ground rules for setting lease charges and defining non-discriminatory access, the basic elements of the common-carrier concept? In meeting the requirements to originate, will cable operators be attracted to new kinds of programming catering to small audiences, thereby substantially improving the range of choice

available to the television viewers; or will they be lured to token conformity—marked by still older movies and still more canned re-runs? We have talked much about the incentives and responsibilities of broadcasters. But what about the incentives and responsibilities of cable operators?

Questions also arise about the feasibility and time-phasing of services that go beyond conventional home television. Facsimile mail reproduction, shopping services, information storage and retrieval, and audience polling and voting on two-way systems immediately come to mind. In this Report, we have been primarily concerned with the penetration of cable into major markets on the basis of importing distant signals. As the Park study suggests, perhaps 40 percent of the homes in major markets would be served by cable on this basis. But if new services are eventually perfected, penetration might rise to much higher levels, perhaps approaching 100 percent. This eventuality raises questions of the terms of access by cable of specialized users (such as data service bureaus, the Post Office, and retail merchants). Pressing issues may someday arise about the interface between cable facilities and services, on the one hand, and the existing and projected telephone plant, on the other. The additional growth of cable, stimulated by new services as well as expanded television origination sources, could eventually pose a more serious threat to broadcasting than we have considered here (though we should immediately note that the direct-compensation scheme could be easily modified to take these additional factors into account).<sup>1</sup>

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<sup>1</sup> For *whatever* reason audience loss to local stations occurs—whether from distant signals, national or regional cable network programming, or origination by cable operators of programming competitive with broadcast fare—the audience loss shown by the sampling surveys discussed earlier would rise, and the local stations could be compensated accordingly.



Obviously, one cannot now confidently predict the timing and nature of this evolutionary process. Answers to the questions above will depend on the nature of markets for particular services, the changing nature of consumer tastes, advances in cable

technology, the imagination and risk-taking of entrepreneurs, and, of course, well-conceived regulatory policies at the federal, state, and local levels. All of these will be engaging topics for future debate, analysis, and decisionmaking.





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# POTENTIAL IMPACT OF CABLE GROWTH ON TELEVISION BROADCASTING

Rolla Edward Park

A Report prepared under a Grant from  
THE FORD FOUNDATION





PREFACE

Although the future growth of cable television holds out the promise of more diverse programming, it also poses a threat to over-the-air television broadcasting. This Report estimates the dimensions of that threat.

In this study, statistical techniques are used to estimate expected cable penetration, the elements of a model describing how the audience divides its viewing among available signals, and relationships between audience and revenue and between revenue and programming. These pieces are put together in a comprehensive computerized model, which is used to estimate in detail the potential impact of cable on broadcasting.

Some of the work reported here was performed at the Federal Communications Commission (FCC) computer facility in Washington, D.C. The author wishes to thank J. N. Hand and his staff at the FCC for their generous help, which made this part of the work possible. Valuable assistance and comments were also provided by A. Carlin, S. J. Carroll, L. L. Johnson and E. C. Poggio of Rand, M. S. Horne of Covington and Burling, A. Korn of the FCC, and R. R. Ridgeway of the American Research Bureau (ARB).

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- o Leland L. Johnson, The Future of Cable Television: Some Problems of Federal Regulation, RM-6199-FF, January 1970.
- o Richard A. Posner, Cable Television: The Problem of Local Monopoly, RM-6309-FF, May 1970.
- o Nathaniel E. Feldman, Cable Television: Opportunities and Problems in Local Program Origination, R-570-FF, September 1970.



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## I. INTRODUCTION AND SUMMARY

### THE PROBLEM

The growth of cable television raises a real dilemma for public policy. On the one hand, it holds out the promise of more diverse programming made possible, even promoted, by the ability of cable to carry a large number of signals. On the other, it poses a threat to over-the-air television broadcasting. When cable carries distant signals, it fragments the local audience, tending to reduce local station revenue. There are several reasons for being concerned over the reduction of broadcast stations' revenue. Some of the more important ones are listed below.

1. Most directly, broadcasters themselves are understandably concerned about developments that may decrease their profits and jeopardize their investments.

2. The Federal Communications Commission (FCC) has an historical commitment to promote and protect the viability of ultra-high-frequency (UHF) broadcast stations. In light of this commitment, the FCC is particularly concerned over possible adverse effects of cable growth on such stations.

3. Smaller profits or larger losses might force some stations off the air. This would reduce the amount of service available to cable non-subscribers. The loss to those viewers who are in areas not served by cable, and to those who cannot afford the cable subscription fee, might be considerable.

4. Reduced revenues may force broadcasters to reduce the quality of their programming, particularly local and public service programming.

5. If the aggregate revenue of broadcast stations were reduced, total support for program production would also decline (at least as long as no new source of support were added). Because support is provided primarily by advertisers rather than viewers, at a level of only a few pennies per viewer hour, there is some presumption that



the current level is already too low to be optimal. A further decline would therefore be unfortunate.

Each of these concerns can be illuminated by a study of cable's potential impact on broadcasting, but each suggests a somewhat different focus. Concerns 1 and 2 center attention on the magnitude of revenue changes due to cable, and their distribution; concern 2 singles out UHF stations for special attention. Concern 3 suggests the desirability of investigating the profit impact of cable, as indicated perhaps by the number of profitable stations made unprofitable (or vice versa). To illuminate concern 4, one would want to investigate relationships between station revenue and local and public service programming. For concern 5, a relevant statistic is the decline in aggregate station revenue to be expected because of cable. The work reported here attempts to shed light on each of these aspects.

#### METHOD AND RESULTS

All the work described in this Report is aimed at the construction of a computerized "impact model" capable of providing the type of information sketched above. Four important pieces of the model are estimated in Chapters II through V. They are put together to make the impact model in Chapter VI.

Certainly, the potential impact of cable on broadcasting depends on what portion of households can be expected to subscribe to cable service. Estimates of cable penetration ultimately to be expected are made in Chapter II by fitting a set of "logistic" growth curves to data on a fairly large sample of cable systems. Not surprisingly, ultimate cable penetration tends to be higher (a) for systems carrying a greater number of distant signals and (b) for systems operating in areas with fewer signals available locally over the air. For the classifications used, estimated ultimate penetration ranges from 29 to 60 percent. Rough calculations suggest an ultimate nationwide average penetration on the order of 40 to 45 percent of households.





In estimating impact, it is of central importance to know what share of the audience will watch distant signals, and what share will continue to watch local ones. A method for estimating audience shares is developed in Chapter III. The hypothesis there is that "attractiveness" indices can be assigned to television signals so that, for any set of signals, audience shares tend to be proportional to the indices. In the process of actually assigning such indices, several rough tests provide some support for the hypothesis. Of particular interest in Chapter III is an estimate that the attractiveness index for a network signal broadcast over UHF is only about one-half the index for the same signal broadcast by very-high-frequency (VHF) transmission, probably because of transmitter, antenna, and tuner differences. Since the UHF handicap is wiped out when the UHF station is carried on cable, this estimate provides one reason to expect that cable may help UHF's, at least relative to local VHF's.

Taken together, the results of Chapters II and III permit the calculation of station audience if distant signal carriage is specified. Chapter IV contains estimates that aid in translating station audience into station revenue. Of particular interest here are two results that indicate that an audience taken from local stations by distant signals is more valuable to the losing station than to the gaining station. First, the revenue-audience relationship is found to be curved in such a way that an additional household is worth less to a large station than to a small one. Second, distant audience is found to be worth less than closer audience. Since one result of cable growth is likely to be a decrease in the local audience of small stations and a corresponding increase in the distant audience of larger stations, both results indicate that total audience value will be decreased by cable growth.

In Chapter V, the relation between local and public service programming, on the one hand, and station revenue, on the other, is investigated. In general, both the quantity and the quality of such programming are higher for stations with higher revenue. On the average, between 15 and 21 cents of each additional revenue dollar is spent on local



programming. This suggests that any adverse impact of cable on station revenue may well be reflected in decreased local programming.

In Chapter VI, the pieces are put together to form the comprehensive impact model. A strong set of distant signals is assumed -- signals from four very strong independents in the top 100 markets and three in the next 100, plus network signals sufficient to provide three-network service. Cable penetration is assumed to reach ultimate levels. The model provides detailed estimates of station audience, revenue, and local programming expenditure, with and without cable, in three different environments:

- o 1960's environment, with UHF set penetration at November 1968 levels, and a UHF handicap due to antenna, transmitter, and tuner differences of about one-half, as estimated in Chapter III.

- o 1970's environment, in which UHF set penetration is assumed to reach 100 percent, but the UHF handicap due to the other factors remains unchanged.

- o 1980's environment, in which technological improvements are assumed to have eliminated the UHF handicap entirely.

Table 1.1, showing the impact of cable on revenue in the 1970's environment, is a sample of the results presented in Chapter VI. This table reflects only effects on local audience. Stations carried by cable into distant markets have, in addition, a distant audience that also contributes to revenue. The contribution of distant audience is discussed separately below.

Overall, station revenue (attributable to local audience) is reduced 18 percent by cable at its ultimate penetration, carrying the strong set of distant signals assumed. There is, however, considerable variation among markets and among different kinds of stations. Generally, stations in smaller markets are harder hit than those in larger markets. Those in large (top 50) markets lose, on the average, 15 percent of their non-cable revenue; those in small (fourth 50) markets lose 56 percent, on the average.



Table 1.1

PERCENTAGE CHANGE IN REVENUE DUE TO CABLE  
IN A 1970'S ENVIRONMENT<sup>a</sup>

Type of Station	Market Rank				
	1-50	51-100	101-150	151-200	1-200
Network VHF	-17	-24	-31	-55	-20
Network UHF	+12	-18	-15	(b)	-14
Independent VHF	-11	(b)	(b)	(b)	-11
Independent UHF	+20	+20	(b)	(b)	+19
All	-15	-23	-30	-56	-18

Notes:

<sup>a</sup>All figures reflect the effect on local audience only. Distant audience increases values in some cases.

<sup>b</sup>Classifications with fewer than five stations are not reported in detail, but are included in the totals.





The reasons for stations in the smaller markets being harder hit are easy to see. Distant signals capture a larger share of the local audience when competing with a smaller number of local signals. Also, cable penetration is expected to be higher in markets with fewer local signals.

There is also striking variation in how different kinds of stations are affected. Generally, UHF stations are less harmed -- many are even benefited -- by cable than are VHF stations. Network affiliated UHFs in the model lose, on the average, 14 percent of non-cable revenue, and the revenue of UHF independents actually rises 19 percent above its non-cable level.

The general reasons for this differential impact between UHF and VHF are clear. Over the cable, UHF stations are on an equal footing with VHF stations. It does not matter whether the cable subscriber lacks a UHF antenna or lives where UHF reception is poor. He gets UHF stations with the same click-stop tuning as VHF stations. The gain from achieving technical parity with VHF over the cable tends to offset, and in some cases more than offsets, the loss from audience fragmentation.

Among the UHF stations, the network affiliates are harmed by cable while the independents are helped. There are two explanations for this. First, the principal competition of independent UHFs is VHF stations, but many UHF network stations compete with one or two other network UHFs. Independents thus have more to gain than network stations from achieving technical parity with VHF stations on the cable. Second, network UHFs are generally found in smaller markets than are independent UHFs, and the smaller markets are harder hit by cable growth.

The discussion above reflects only the effects of cable on local audience. In the model, the gain in distant audience exactly equals the loss in local audience. The distant audience also has some value, and thus tends to offset some of the revenue losses discussed. Results on audience-revenue relationships from Chapter IV may be used to estimate the size of the offset. Estimates there indicate that distant



audience is worth less than local audience. Also, because of the curved relationships between audience and revenue, additional audience is worth less to large stations than to small ones. It seems likely that stations carried as distant signals will tend to be fairly large ones with strong programming, certainly larger on the average than the local stations whose audience they capture. The combined effect of curvature and distance is to make distant audience worth about half as much as local audience. The net overall revenue loss attributable to cable is then 9 percent; half of the 18 percent loss in revenue based on local audience is gained back by stations carried as distant signals.

If, as seems likely, distant signals are taken mostly from larger markets, the differential impact of cable in large and small markets, apparent in the table, is accentuated. Large-market stations, which lose least in terms of local audience, stand to gain most in terms of distant audience.

Additional results, relating to audience, profit, and local programming expenditure as well as to revenue in the 1960's, 1970's, and 1980's environments, are reported in Chapter VI. Generally, the patterns that emerge in Table 1.1 and the discussion above are repeated in the additional results:

- o Cable reduces aggregate station revenue by about 9 percent, roughly equal to one year's normal revenue growth.
- o Stations in larger markets are, on the average, little affected by cable growth.
- o Stations in smaller markets, on the other hand, are significantly hurt -- enough so that many might be forced to discontinue service or continue only as a satellite of a larger station.
- o In the near term, say through the 1970's, the impact of cable on UHF network stations is slight; and UHF independents are helped substantially.



## II. EXPECTED CABLE PENETRATION

In 1969, roughly 6 percent of U.S. television homes were cable subscribers,<sup>1</sup> and this figure is increasing rapidly. Over the past decade, the number of subscribers has increased at an average annual rate of about 21 percent,<sup>2</sup> while the number of cable systems has grown by 15 percent per year.<sup>3</sup>

The future impact of cable on television broadcasting certainly depends on how far this remarkable growth continues. If 90 percent of all television homes ultimately subscribe to cable service, the impact will obviously be greater than if only 30 percent do. This chapter presents estimates of average cable penetration levels ultimately to be expected. These estimates suggest that ultimate penetration may be on the order of 40 to 45 percent nationwide.

### LOGISTIC GROWTH CURVE

The logistic growth curve,

$$Y = e^{\alpha - \beta/T}, \quad (2.1)$$

is frequently used to represent growth processes. The size of the growing entity is denoted by Y, T denotes time since growth began, e is the base of natural logarithms, and  $\alpha$  and  $\beta$  are parameters. This curve is sketched in Figure 2.1. The shape of the curve makes clear its relevance for many growth processes. The entity grows slowly at first, then at an increasing absolute rate as it gets bigger. As it

---

<sup>1</sup>There were 3,600,000 cable subscribers in January 1969 and 57,514,300 television households in September 1968 (ARB figure) according to Television Factbook, 1969-1970 Edition, No. 39, Services Volume, published by Television Digest, Inc., Washington, D.C., 1969, pp. 79-a and 97-a.

<sup>2</sup>From 550,000 in 1959 to 3,600,000 in 1969. Television Factbook, p. 79-a.

<sup>3</sup>From 560 in 1959 to 2,260 in 1969. Television Factbook, p. 79-a.





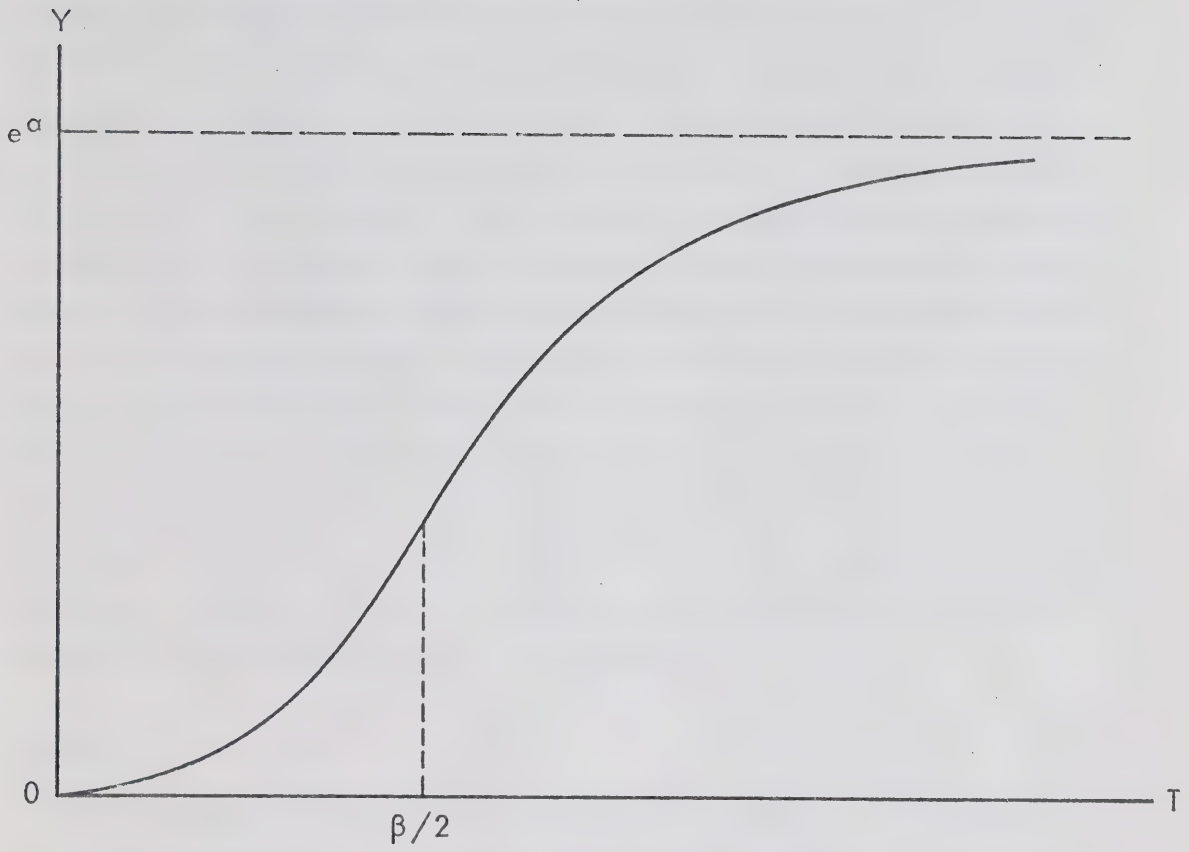


Fig. 2.1— Logistic growth curve



approaches its mature size, its growth rate begins to decrease. Finally, it approaches its ultimate size asymptotically.

Qualitatively, at least, the logistic curve is a good descriptor of growth of many entities whose ultimate size is limited, for example, a tree, or a colony of fruit flies in a finite container, or a cable television system with a finite service area. Figure 2.1 is easily interpreted in terms of a cable system. The new system gets off to a relatively slow start for a variety of reasons: since it is new to the community, many people do not know of its existence or understand the service it provides. Nor is the firm likely to be staffed to sustain a maximal growth rate from the beginning. But as the system grows, the word gets around. More people now have neighbors who subscribe, and so know first hand about the service. The growth rate picks up. Perhaps additional installers and sales personnel are hired. At some point, though, most of the easy sales have been made. The growth rate slows as fewer and fewer potential subscribers remain unsigned. The system slowly approaches its ultimate size, with all households that desire service being served.

#### THE MODEL

To estimate ultimate cable penetration levels, I fit a set of logistic growth curves to data on actual cable systems. For this purpose, equation (2.1) needs some embellishment.

When (2.1) is applied to a cable system,  $Y$  denotes the number of subscribers. Obviously, the ultimate number of subscribers,  $e^\alpha$ , will vary from system to system, depending on the number of households in the system's service area, the type of service offered, and other factors. To account for this, I specify

$$e^\alpha = F_i H e^u \quad (2.2)$$

Here  $H$  is the number of households in the service area;  $F_i$  is the fraction of all households expected ultimately to subscribe if the system offers service of types  $i$ ;  $u$  is an error term introduced to represent the influence of all other factors -- income, availability



of alternative entertainment, variations in taste and in cable system management, for example.

Type of service is defined initially in terms of the numbers of local and distant signals carried by the system. If other things were equal, one would expect a system that carried many distant signals to have a higher ultimate penetration than one with few distant signals. Also, other things again equal, one would expect that a system in an area with more local signals would have a lower ultimate penetration than one in an area with fewer. If local signals are abundant, distant signals available only on the cable offer less incentive to subscribe. "Service of type i" is specified more concretely in the following section, as are the other variables in the model.

Referring to Figure 2.1, we note that the parameter  $\beta$  is a measure of how stretched out the growth curve is. The larger is  $\beta$ , the longer is the time until the inflection point on the growth curve is reached. This parameter, too, may be expected to vary from system to system. I expect it to be larger the more households there are in the system's service area, and so specify

$$\beta = \beta_1 + \beta_2 H + \beta_3 H^2 . \quad (2.3)$$

The  $H^2$  term is included to allow for possible curvature in the relation, there being no reason a priori to expect it to be linear. Admittedly, (2.3) should be a stochastic relation like (2.2). I omit the error term, making the relation deterministic, for pragmatic reasons: to make it possible to estimate the resulting equation, (2.4) below, using conventional methods.

Substituting from (2.2) and (2.3) in (2.1) and taking natural logarithms, we get

$$\log Y = \log F_1 + \log H + \beta_1(-1/T) + \beta_2(-H/T) + \beta_3(-H^2/T) + u . \quad (2.4)$$

With some slight additional manipulation, and assuming that the errors  $u$  are distributed independently (of each other and of the independent variables) with zero mean and constant variance, (2.4) is an appropriate subject for ordinary least squares estimation. The next section discusses the data used to estimate (2.4), and the section after that presents the estimates themselves.





## THE DATA

Data used are for a cross section of cable systems as of February 1969, taken from the 1969-1970 Television Factbook.<sup>1</sup> The sample includes all 46 of the systems listed as having 10,000 or more subscribers, plus every sixth listed operational system with fewer than 10,000 subscribers, read from a randomly chosen starting point.<sup>2</sup> Since the listing is alphabetical by state, the geographical distribution of systems in the sample is the same as that of all listed systems. The total number of systems in the sample is 416.

Entries in the Factbook usually include a list of television stations carried by the cable system. By referring to maps in the CATV Atlas,<sup>3</sup> one can usually determine which of the stations are distant signals (that is, carried by a cable system outside the station's Grade B contour) and which are local signals. The number of systems for each combination of distant and local signals is shown in Figure 2.2. The systems represented in Figure 2.2 total 395; for 21 of the systems in the gross sample, stations carried are not listed in the Factbook.

The systems in Figure 2.2 are divided into six groups, each providing a roughly homogeneous type of service. Assignments to groups are made based on a priori judgment, and on the need to have a minimum of thirty or so systems in each group to get good estimates. Analytically, the most important division is that between systems with two or fewer local signals, that is, systems in areas where a full network lineup is not available over the air, and systems with three or more local signals. In the former case, the cable typically carries the missing network signal or signals, presumably making cable service especially attractive. The other divisions, shown by lines in the figure, are chosen with less a priori justification primarily so that systems are well distributed among different types of services.

---

<sup>1</sup>Television Factbook, pp. 363a-591a.

<sup>2</sup>Alexander City, Alabama.

<sup>3</sup>CATV and Station Coverage Atlas, 1968-1969, published by Television Digest, Inc., Washington, D.C., 1968.



Distant signals	10+	1	2	4	0	2	0	0	0	0	0	0	0
	9	3	2	1	2	0	0	0	0	0	0	0	0
	8	4	1	6	2	2	2	0	2	0	0	0	0
	7	4	7	3	7	3	2	0	0	0	1	0	0
	6	6	5	7	6	5	5	1	0	0	1	0	0
	5	13	6	7	7	6	7	2	1	0	1	0	0
	4	9	18	9	9	8	6	2	0	3	0	0	0
	3	3	5	23	9	3	4	4	2	2	0	2	2
	2	0	3	2	10	6	5	2	5	1	1	2	2
	1	2	1	4	6	6	0	1	0	3	3	5	5
	0	0	0	0	6	7	7	2	14	4	3	14	14
		0	1	2	3	4	5	6	7	8	9	10+	
Local signals													

Fig.2.2— Number of systems carrying different combinations of local and distant signals



To obtain estimates of the asymptotic penetration levels for each type of service, the  $F_i$  in equation (2.4), dummy variables,  $D_i$ , are defined corresponding to the service classifications as follows.

$D_i = 1$  if:

<u>i</u>	<u>Type of Service</u>	
1	Local signals $\leq 2$	Distant signals $\leq 3$
2	Local signals $\leq 2$	Distant signals $\geq 4$
3	$3 \leq$ Local signals $\leq 6$	Distant signals $\leq 3$
4	$3 \leq$ Local signals $\leq 6$	Distant signals $\geq 4$
5	Local signals $\geq 7$	Distant signals $= 0$
6	Local signals $\geq 7$	Distant signals $\geq 1$ .

Otherwise,  $D_i = 0$ . A system with service of type 1, for example, is represented by  $D_1 = 1$ ,  $D_2 = \dots = D_6 = 0$ .

The number of households variable,  $H$ , is constructed in the following manner. The Factbook listing usually includes population of the system's service area. This figure is converted to number of households by dividing by the average number of persons per household in the state in which the system is located. Average persons per household, in turn, is calculated from census data<sup>1</sup> by dividing state population by number of occupied dwelling units in the state.

The time variable,  $T$ , is calculated from the Factbook listing, which usually includes the date that the system began service. Time in months from begin-service date to February 1969 is the value used for  $T$ .

Finally, the number of subscribers,  $Y$ , is taken directly from the Factbook listing.

Because subscribers, population, or begin-service date is missing from some listings, the usable sample is further reduced to 352 observations.

<sup>1</sup>County and City Data Book, 1967, U.S. Department of Commerce, Washington, D.C., 1967.





## THE ESTIMATES

Making use of the dummy variables defined in the preceding section, (2.4) can be rewritten in a form suitable of ordinary least squares estimation as

$$\log Y - \log H = \sum_{i=1}^6 \log F_i(D_i) + \beta_1(-1/T) + \beta_2(-H/T) + \beta_3(-H^2/T) + u. \quad (2.5)$$

Regression of  $\log Y - \log H$  on the  $D_i$ 's,  $-1/T$ ,  $-H/T$ , and  $-H^2/T$ , with the intercept suppressed, yields estimates for the  $\log F_i$ 's and the  $\beta$ 's. The estimated coefficients for this first regression, together with their  $t$  values, are shown as line (1) in Table 2.1.

There are two things to note about this first regression before going on to the definitive form of the relationship. First, the estimated coefficients of  $D_1$  and  $D_2$  are the same; the sample offers no evidence that asymptotic penetration levels for systems with two or fewer local signals depend on the number of distant signals carried. Second, the estimated coefficient of the  $-H^2/T$  term is not significantly different than zero at the .95 confidence level; there is no evidence that the  $\beta$  parameter in the logistic growth curve is a non-linear function of number of households.

Consequently, I estimate a revised form of the relationship. Service of types 1 and 2 is lumped together and called type 1. In other words, all systems with two or fewer local signals are classified as offering type 1 service, regardless of the number of distant signals they carry. Also, the  $H^2/T$  term is omitted from the equation. The resulting equation to be estimated is

$$\log Y - \log H = \sum_{i=1,3}^6 \log F_i(D_i) + \beta_1(-1/T) + \beta_2(-H/T) + u. \quad (2.6)$$

Estimated coefficients and  $t$  values are shown as line (2) in Table 2.1.

## Estimated Penetrations

The coefficients of the  $D_i$  are estimates of  $\log F_i$ . By raising  $e$  to these powers, one obtains estimates of the  $F_i$  themselves, the



Table 2.1

REGRESSION RESULTS

Dependent Variable	Estimated Coefficients							R <sup>2</sup>		
	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>	D <sub>6</sub>	-1/T			
(1) log Y - log H	-.509 (-3.55)	-.509 (-6.19)	-.986 (-9.45)	-.697 (-7.12)	-1.237 (-6.10)	-.875 (-5.44)	1.194 (2.16)	.405(10 <sup>-3</sup> ) (6.88)	-.808(10 <sup>-10</sup> ) (-0.47)	.391
(2) log Y - log H	-.508 (-7.12)		-.987 (-9.48)	-.696 (-7.13)	-1.223 (-6.10)	-.874 (-5.45)	1.307 (2.63)	.387(10 <sup>-3</sup> ) (8.73)		.390
(3) log Y - log H	-.495 (-6.33)		-.976 (-9.09)	-.673 (-6.01)	-1.206 (-5.88)	-.856 (-5.15)	1.300 (2.61)	.387(10 <sup>-3</sup> ) (8.73)	-.0277 (-0.41)	.391



asymptotic penetration levels. These values, the central results of this chapter, are presented in Figure 2.3. Ninety percent confidence intervals for the estimates are shown within parentheses in the figure.<sup>1</sup>

The relative magnitudes of the estimated asymptotic penetration levels correspond well with a priori expectations. Systems in areas with two or fewer local signals have the highest penetration. Here cable service is especially attractive because it supplies missing network signals and adds greatly to the very limited service available over the air. My estimate indicates that a cable system in such an area can expect, on the average, ultimately to serve 60 percent of all households in its service area. In areas where more local signals are available, estimated asymptotic penetration levels are lower. In an area with between three and six local signals, a cable system that imports three or fewer distant signals can expect an ultimate penetration level of .37; a system importing more than three distant signals will do better, averaging an ultimate penetration of .50. For areas even better endowed with local signals, estimated ultimate penetration decreases still further: .29 for systems that do not import distant signals, .42 for those that do.

#### Nationwide Average

Estimated ultimate penetration levels in Figure 2.3 may be used to calculate a rough estimate of expected nationwide average penetration. I make two assumptions, both of which bias the estimate upwards. First, all cable systems will carry four or more distant signals, so the boxes at the top in Figure 2.3 apply. Second, all television homes are located in areas where cable service can be provided at a reasonable price.

Nearly two-thirds of all television homes are located in areas where three to six signals are received, so the middle column of boxes

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<sup>1</sup>Based on a 1.65 standard error band on either side of the estimated  $\log F_1$ .





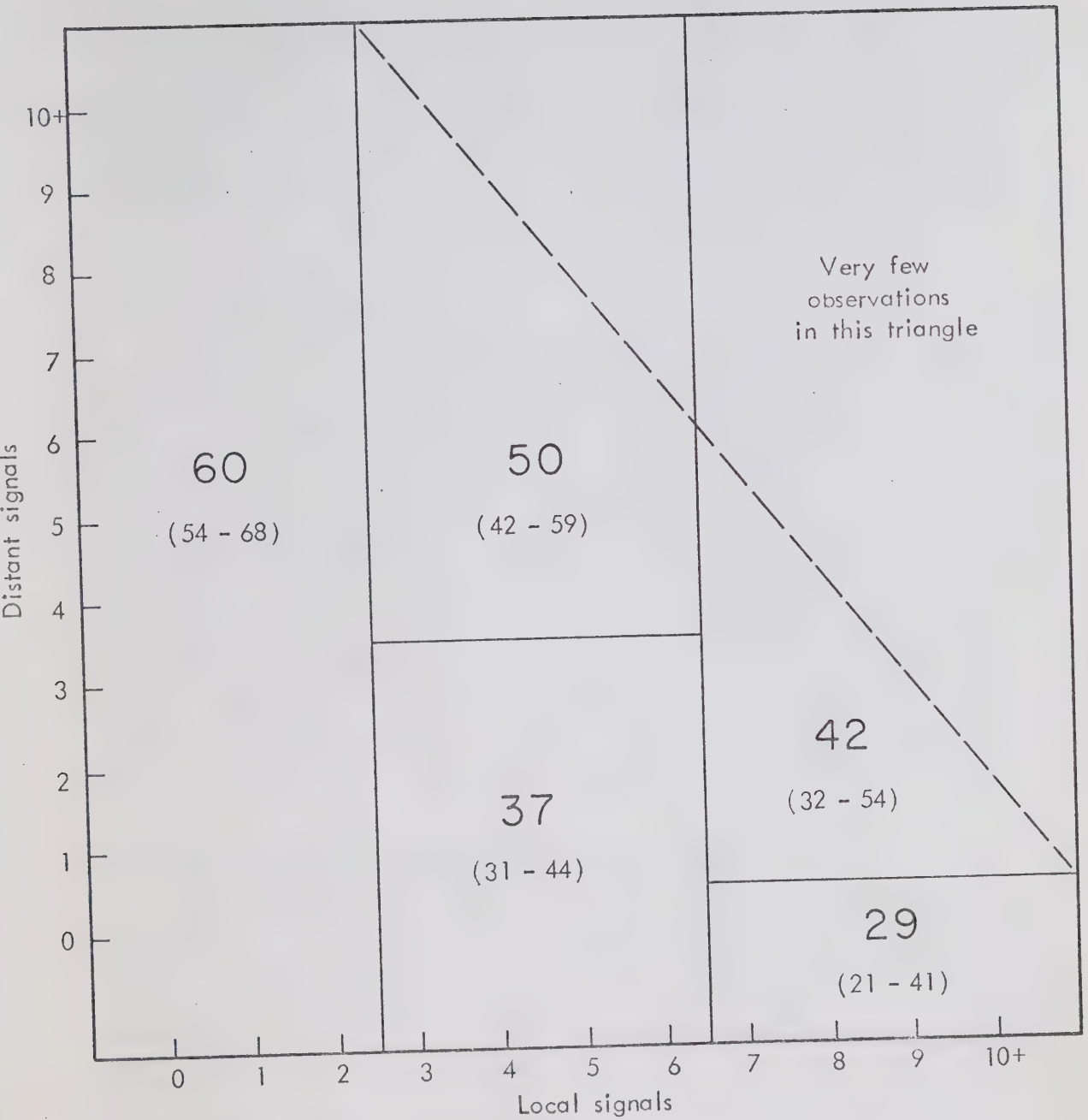


Fig. 2.3— Estimated ultimate penetration percentages



in Figure 2.3 is numerically the most important one. Most of the remainder can receive seven or more signals, so the column to the right is also important. Using the distribution of homes by signals received, and penetration estimates from Figure 2.3, expected nationwide average cable penetration is calculated in Table 2.2. Making some allowance for the upward bias introduced by my assumptions, the result can be stated as follows: Expected nationwide average cable penetration is on the order of 40 to 45 percent.

### Estimated $\beta$ Coefficients

It may be of some interest, if only as a check on the plausibility of the model, to discuss the estimated  $\beta$  coefficients, as well. From line (2) of Table 2.1, the estimated expression for the parameter  $\beta$  in the logistic growth curve is  $\beta = 1.307 + .000387H$ . In the sample, the mean number of households is 12,929. Recall that the inflection point of the logistic curve comes at  $T = \beta/2$ . For the average system, then, the estimated inflection point is reached only three months after service begins. For a system with a large service area, say 250,000 households, the estimated inflection point comes 49 months after service begins. These figures strike me as being somewhat on the low side, but not altogether unreasonable.

### ASSESSING THE OVERALL SIGNIFICANCE OF THE MODEL

R-squared for the second regression in Table 2.1 is .39. All it takes is a glance at the t values to assure one that this is statistically a highly significant portion of the total variance in the dependent variable. But the variance of  $\log Y - \log H$  does not have much intuitive meaning.

To make possible a more informative assessment of the overall in-sample performance of the model, I rewrite equation (2.6) as a predictor of number of subscribers:

$$\hat{Y} = \hat{F}_1 H e^{-(\hat{\beta}_1 + \hat{\beta}_2 H)/T} \quad (2.7)$$



Table 2.2

EXPECTED NATIONWIDE AVERAGE PENETRATION

Number of Stations Received	Percent of TV Households <sup>a</sup>	Estimated Penetration	Percent <sup>b</sup> on Cable
2 or fewer	3.4	.60	2.0
3 to 6	64.0	.50	32.0
7 or more	<u>32.6</u>	.42	<u>13.7</u>
Total	100.0		47.7

Notes:

<sup>a</sup>From Nielson national sample in September 1967 cited in "A Study of Distribution Methods for Telecommunications (Complan Associates)," A Survey of Telecommunications Technology Part 2, President's Task Force on Communications Policy, June 1969, PB 184 413.

<sup>b</sup>Column 2 times column 3.





As shown in the third line of Table 2.3, equation (2.7) explains 31 percent of the total variance in subscribers. Obviously, the "other factors" represented by the error term in the model are important, resulting in 69 percent of the total variance. But it is also true that the factors included explicitly in the model have a highly significant influence. The F statistic for equation (2.7) is 25.9, and  $F_{6, 345, .01}$  is only about 2.70. Thus the equation is significant far beyond the .01 level. If the other factors remain reasonably constant, then my estimates should be reasonably good predictions. If not, then the other factors should be taken explicitly into account in the model, if possible.

Another way to evaluate the performance of the model as a predictor of subscribers is to compare its performance with that of a naïve (an even more naïve) model. For the comparison model, I use number of households as a linear predictor of number of subscribers, getting the least squares equation

$$\hat{Y} = \begin{matrix} 2537 \\ (10.34) \end{matrix} + \begin{matrix} .02523H \\ (6.17) \end{matrix} \quad (2.8)$$

The numbers in parentheses are t values.

As shown in Table 2.3, equation (2.8) explains 10 percent of the variance in Y. Even this simple equation is highly significant. Its F statistic is 20.2,<sup>1</sup> much greater than  $F_{1, 350, .01} = 6.72$ .

But equation (2.7) does much better than the naïve comparison model. It explains more than three times as much variance. The F statistic for additional variance explained by (2.7) relative to (2.8) is 21.2.  $F_{5, 345, .01}$  is only about 3.08.

#### CABLE PENETRATION VERSUS CABLE SHARE OF VIEWING

Figure 2.3 shows estimates of percent of households that will ultimately subscribe to cable. This may not be the same as percent of

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<sup>1</sup>Equation (2.8) explains  $768(10^6)$  subscribers<sup>2</sup> of variance with one degree of freedom, leaving  $7072(10^6)$  unexplained with 350 degrees of freedom.  $F = (768/1)/(7072/350) = 20.2$ .



Table 2.3

ANALYSIS OF VARIANCE OF SUBSCRIBERS ABOUT MEAN

Source of Variance	R-Squared	Sum of Squares (10 <sup>6</sup> )	Degrees of Freedom	Mean Square	F Statistic
Explained by (2.8)	.098	768	1		
Additional explained by (2.7)	<u>.213</u>	<u>1672</u>	<u>5</u>	333.4	21.2 <sup>a</sup>
Total explained by (2.7)	.311	2440	6	406.7	25.9 <sup>b</sup>
Unexplained residual	<u>.689</u>	<u>5400</u>	<u>345</u>	15.7	
Total	1.000	7840	351		

Notes:

$$^a F_{5, 345, .01} = 3.08.$$

$$^b F_{6, 345, .01} = 2.70.$$



viewers that subscribe, and it is this latter quantity that is needed for the impact model of Chapter VI. In fact, there are good reasons to expect that the two quantities will differ: Avid television watchers seem more likely to subscribe than those with less interest. If that is true, then the 42 percent (say) of households that subscribe may account for significantly more than 42 percent of homes viewing television at any given time.

Four audience surveys that report cable and over-the-air viewing separately<sup>1</sup> shed some light on this subject. In all four cases, the percentage of cable subscribers watching television during prime time is greater than the corresponding percentage of non-subscribers. (The same is true for the 9 a.m. to midnight averages.) For example, a 1968 survey in Kern County, California, found that 64 percent of cable subscribers used television on average during prime time, compared to 56 percent of non-subscribers. Therefore subscribers, who constituted 26.6 percent of all television homes in the county, accounted for 29.3 percent of all prime-time viewing.<sup>2</sup> Similar figures from two surveys in San Diego County, California, and one in El Paso County, Colorado, are shown in Table 2.4.

The four points in Table 2.4 aid in establishing the assumed relationship, plotted in Figure 2.4, between percent of households subscribing to cable and percent of viewing accounted for by cable subscribers. The assumed relationship consists of three straight line segments. The first, over the range from zero to one-third cable penetration, is the least-squares line through the origin, defined by the four observed points. The second, from one-third to two-thirds penetration, is parallel to the 45-degree "equality" line. The third, from two-thirds to 100 percent penetration, completes the route to 100 percent viewing at 100 percent penetration.

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<sup>1</sup>Reproduced in "The Economics of the TV-CATV Interface," Staff Report to the Federal Communications Commission, Washington, D.C., July 15, 1970, p. 14 and Appendices 2 and 3. Hereafter this is referred to as Staff Report.

<sup>2</sup> $(64 \times .266)/(64 \times .266 + 56 \times .734) = .293.$





Table 2.4

CABLE PENETRATION VS. CABLE SHARE OF VIEWING

Survey	Non-Cable		Cable		
	Fraction of Households	Prime-Time HUT <sup>a</sup> (percent)	Fraction of Households	Prime-Time HUT <sup>a</sup> (percent)	Fraction of HUT <sup>a</sup>
Kern County, California	.734	56	.266	64	.293
San Diego County, California, 1970	.860	56	.140	59	.146
San Diego County, California, 1969	.891	56	.109	60	.116
El Paso County, Colorado	.796	60	.204	69	.228

Note:

<sup>a</sup>Homes using television.



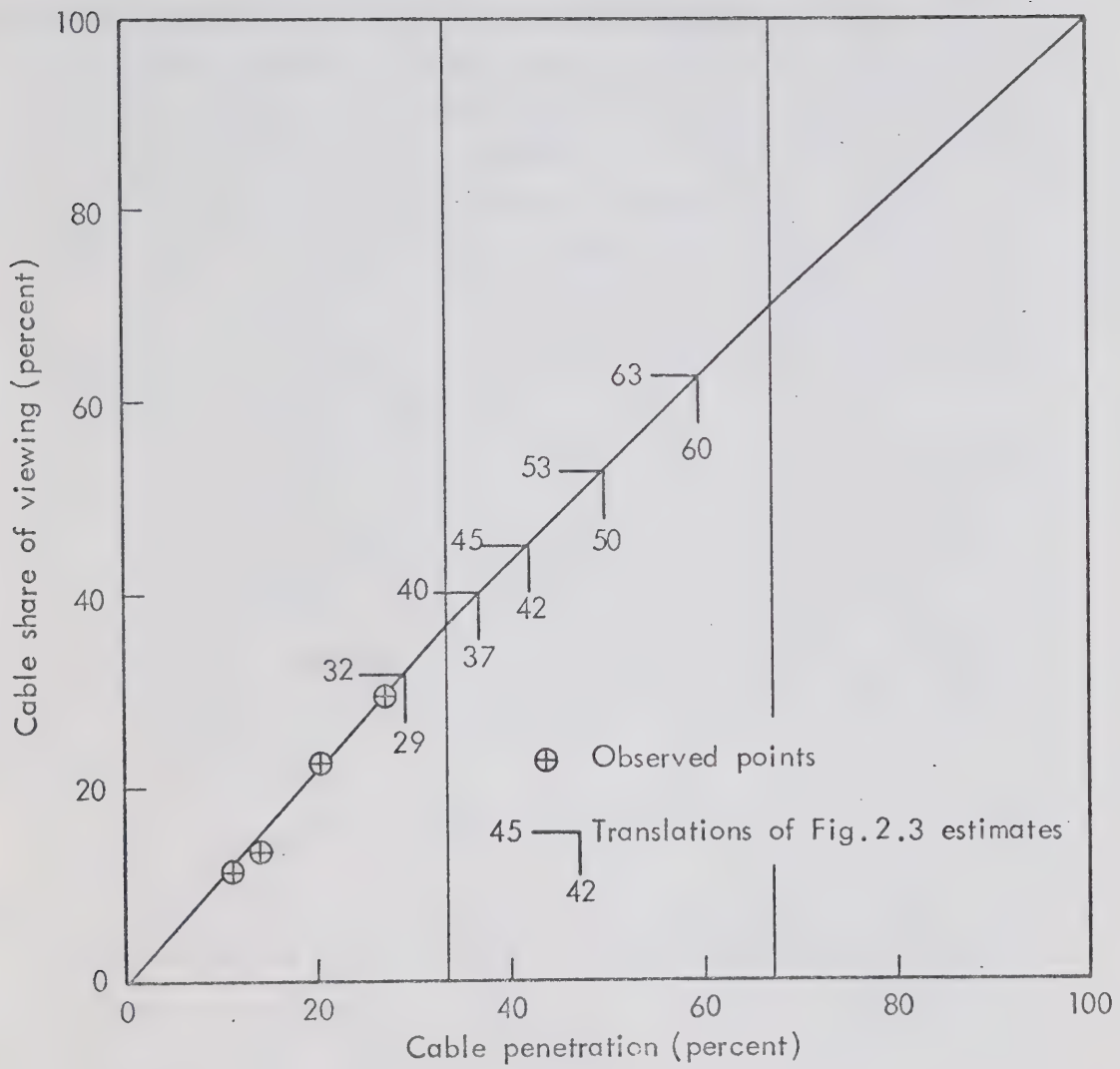


Fig. 2.4—Cable penetration versus cable share of viewing



## OTHER SERVICES

Obviously, the estimates of asymptotic cable penetration levels presented in this chapter (Figure 2.3) apply only to cable systems whose primary service is delivery of some combination of local and distant television signals. Future cable systems may additionally offer a number of other, essentially different services, such as opinion polling, automatic meter reading, and unique kinds of cable originated programming. If such services should come to motivate an important part of cable demand, my estimates will no longer be relevant. (To the extent that cable originations resemble broadcast programming, however, origination channels could be counted as distant signals, and my estimates could still be used.)

Of course, empirical estimates of the importance of dramatic new services are impossible as long as the services are non-existent. In an attempt to get some feel for the importance of extra services offered by cable systems, I estimate a model that allows for an effect of two unique extra services currently available on some systems: mechanical origination, such as time and weather, and local live origination. The model is

$$Y = F_i He^{\gamma O} - (\beta_1 + \beta_2 H)/T + u \quad (2.9)$$

The new variable  $O$  is a crude index of a system's origination activity. It can take on values of zero, one, or two, with one point assigned for each type of origination offered by the system. In the model, origination increases expected subscribers at any point in time by the factor  $e^{\gamma O}$ , where  $\gamma$  is a parameter to be estimated.

Model (2.9) results in a regression equation identical to (2.6) except that it includes a  $\gamma O$  term on the right hand side. Parameter estimates for this model are shown as line (3) back in Table 2.1. The estimated origination coefficient has the wrong sign, but is not significantly different than zero, with a  $t$  value of only  $-.41$ . Other specifications of the origination index  $O$  -- including canned as well as mechanical and live origination, and using a zero/one origination dummy instead of the additive index described above -- perform even





worse. Estimated  $\gamma$  coefficients for these other specifications are larger negatively, but in no case does the  $t$  value exceed 0.8 in absolute value, so none are significant even at the .25 level.

Based on these results, one cannot reject the hypothesis that current cable originations have no effect on asymptotic penetration levels. However, other services available in the future may result in penetrations greater than those estimated here.

#### SUMMARY

Expected ultimate cable penetration levels are estimated by fitting a set of logistic growth curves to 1969 data on cable systems. Highest penetration, 60 percent on average, is to be expected in areas with two or fewer local signals. In such cases, the number of distant signals carried has little or no effect on expected penetration. Lowest penetration is estimated for cable systems that carry no distant signals and operate in areas with many local signals; such a system can expect ultimately to serve 29 percent of all homes in its service area on average. Expected penetration for systems with other combinations of local and distant signals ranges from 37 to 50 percent, as shown in Figure 2.3. Rough calculations based on these estimates suggest an ultimate nationwide average cable penetration on the order of 40 to 45 percent.

Because cable subscribers watch more television than do non-subscribers, 40 percent, say, of homes subscribing to cable constitute more than 40 percent of television audience. About 3 percent should be added to the numbers in Figure 2.3 to convert them from percent of homes to percent of audience.

Ultimate penetration may be higher than estimated if radically new cable services are offered in the future. The kind of origination now offered, however, does not significantly affect penetration.



### III. AUDIENCE SHARES

Cable companies that offer their subscribers a choice among local and distant signals tend to decrease local station audience because some subscribers choose to watch the distant signals instead of the local ones. In order to assess the potential impact of cable growth on television broadcasting, it is necessary to have some way of estimating how audience divides among available signals. One method is developed in this chapter for use in the impact model of Chapter VI.

#### STRUCTURE OF THE MODEL

My basic hypothesis is that "attractiveness" indices can be assigned to television signals so that audiences tend to divide among any group of signals in proportion to the indices. Say a particular group of viewers can receive a set of signals  $\theta$ . Denote the index for the  $i^{\text{th}}$  signal by  $a_i$ . Then, according to my hypothesis, the fraction of viewers watching the  $i^{\text{th}}$  signal tends to equal  $a_i / \sum_{\theta} a_i$ . The usefulness of such a hypothesis for this study is that it is a basis for predicting how well particular signals will do in distant markets (and how well local signals will stand up to the competition).

The hypothesis assumes that there is some degree of consistency in the popularity of signals in different markets, for example, that an independent with a large audience share in its home market will tend to do better in distant markets than will a competing independent with a smaller share. This would not be true if the station's popularity were based on programs of purely local appeal. But it seems indisputably true that the appeal of most popular programming is not restricted to a certain small geographical area.

The hypothesis also assumes that there is one fairly homogeneous audience for entertainment programming, so that an additional signal will tend to draw away audience from all other signals. This would not be true in Peter Steiner's model of program patterns and



preferences;<sup>1</sup> there, an additional western would split the audience of other westerns, leaving audiences viewing detective stories and other types of programs unchanged. My hypothesis deals, though, with average audience over long periods, and thus remains plausible even if Steiner's model describes viewers' micro-behavior.

To keep data handling manageable, it is necessary to assume that television markets are "autarkic," that is, that (in the absence of cable) only home stations are viewed in each market. I also assume that total audience,  $A$ , is not changed (increased) by importation of distant signals.<sup>2</sup>

Within each market, I assume that there are three groups of viewers, each able to receive a different set of signals. Cable viewers can receive all home market stations plus whatever distant signals are brought into the market. I denote this set of signals by  $C$ . If  $c$  is cable penetration (as a fraction of viewers, not homes), cable audience  $A_C = cA$ . Homes with all-channel receivers that do not subscribe to cable can receive all home market stations, a set denoted by  $U$ . Using  $u$  to denote UHF penetration, all-channel (non-cable) audience  $A_U = u(1-c)A$ . Non-subscribing homes with VHF-only receivers can receive only home market VHF stations, a set denoted by  $V$ . VHF-only audience  $A_V = (1-u)(1-c)A$ .

A station's local audience,  $A_i$ , is the sum of its audience from each of the three groups of viewers  $A_C$ ,  $A_U$ , and  $A_V$ . Using a dummy variable  $D_i$  equal to one if the  $i^{\text{th}}$  station is UHF and zero if it is VHF, one can write the expression for local audience as

$$A_i = \frac{(1-D_i)a_i}{\sum_V a_i} A_V + \frac{a_i}{\sum_U a_i} A_U + \frac{a_i}{\sum_C a_i} A_C . \quad (3.1)$$

<sup>1</sup>Peter O. Steiner, "Program Patterns and Preferences, and the Workability of Competition in Radio Broadcasting," Quarterly Journal of Economics, May 1952, pp. 194-223.

<sup>2</sup>There is some evidence to support this assumption in the Staff Report, pp. 12-15. If it were to be established that more signals lead to more viewing, this could easily be built into the model.





(We see, though, in the next section, that  $a_i$  for a UHF station is generally different over the air and over the cable, and this requires some modification of equation (3.1)).

### ASSIGNING THE $a_i$

My hypothesis is that indices  $a_i$  can be assigned to signals so that audiences tend to split in proportion to the indices. In this section I make the assignments and in so doing provide several rough tests of the hypothesis.

### VHF Network Stations

During prime time, all of a network's affiliates broadcast much the same programs. Here is one case, then, in which the same set of signals is broadcast in many different markets, making possible one test of the audience share hypothesis.

Consider only markets in which there are three VHF stations with unambiguous (not multiple) network affiliations. Then summing (3.1) over the three network stations in a market (the set NV) and dividing into (3.1) gives

$$A_i / \sum_{NV} A_i = a_i / \sum_{NV} a_i \quad (3.2)$$

My hypothesis implies that there is a tendency for each network's share to be the same in different markets. That is, if my hypothesis is correct, knowing a station's network affiliation should permit a useful estimate of its share of all network audience.

This may be tested by regressing  $A_i / \sum_{NV} A_i$  on  $D_1$ ,  $D_2$ , and  $D_3$ , dummies for NBC, CBS, and ABC affiliation, respectively. The resulting regression equation using 234 observations is

$$A_i / \sum_{NV} A_i = .332 \quad D_1 + .390 \quad D_2 + .278 \quad D_3 \quad (3.3)$$

(57.48)      (67.39)      (47.98)

The numbers in parentheses are t values; R-squared is .447. Network affiliation explains nearly half of the variance in network shares.



At least in the absence of a better general predictor, this is enough to be useful, tending to support my hypothesis.

Normalizing by setting  $\sum_{NV} a_i = 1$ , we can use the average shares -- the coefficients in (3.3) -- as estimates of  $a_i$  for VHF network affiliates. For multiple affiliates, I use appropriate averages of the single-affiliate  $a_i$ 's.

#### UHF Network Affiliates (The UHF Handicap)

UHF stations are at a disadvantage competing with VHF stations for a number of reasons. First, not every home has an all-channel receiver. Second, not every home with an all-channel receiver has a UHF antenna. Third, UHF stations typically operate at low power, making reception more difficult, particularly at the edges of a market. Fourth, the continuous tuner for UHF is less convenient to use than the click-stop tuner for VHF. Thus it seems likely that, even among homes with all-channel receivers, UHF stations attract smaller audiences than would a VHF station broadcasting the same signal.

I hypothesize that the "attractiveness" of a signal broadcast over UHF is decreased by the fraction  $H$  for reasons two through four above. For example,  $a_i$  for an NBC UHF affiliate would be  $.332(1-H)$ .

To estimate  $H$ , consider all three-station intermixed markets with unambiguous network affiliations. The expected share of each station in all-channel homes,  $S_i$ , is given by

$$S_i = \frac{(1 - D_i H) a_i}{\sum (1 - D_i H) a_i} \quad (3.4)$$

Manipulating (3.4), and recalling that  $\sum a_i = 1$ , one obtains

$$S_i - a_i = H(S_i \sum D_i a_i - D_i a_i) \quad (3.5)$$

Equation (3.5) suggests that  $H$  can be estimated by regressing  $S_i - a_i$  on the term in parentheses in (3.5), with the intercept suppressed. To do so, one must have numbers for the  $S_i$ ,  $a_i$ , and  $D_i$ .



The  $a_i$  are given by (3.3), and the  $D_i$  are of course known. The method used to obtain the  $S_i$  is as follows: Start with each station's total prime-time audience,  $A_i$ , for February and March 1968. For the VHF stations, part of this audience is in homes without all-channel receivers; since  $S_i$  refers only to all-channel audience, this portion of VHF stations audience must be deducted. Assuming that cable audience is negligible, the VHF-only audience,  $A_v = (1-u)A$ , is attributed to VHF stations in proportion to  $A_i$  and deducted to give audience in all-channel homes. The shares  $S_i$  for VHF stations are the ratios of all-channel audience to  $A_u = uA$ . All of a UHF station's audience is in all-channel homes, so for a UHF  $S_i = A_i/A_u$ .

The resulting regression equation, using observations on all 30 stations in three-network, intermixed markets in which cable penetration is less than 10 percent, is

$$S_i - a_i = \frac{.543}{(14.34)} (S_i \{ D_i a_i - D_i a_i \}) \quad (3.6)$$

with R-squared of .876.  $H$  is estimated as .543 with a small standard error (.038). That is, broadcast over UHF on average reduces a signal's  $a_i$  to about one half what it would be if broadcast over VHF.

The good fit of equation (3.6) provides additional rough support for my basic audience share hypothesis.

For readers familiar with the FCC staff report, it may be helpful to compare my UHF handicap  $H$  with the somewhat different UHF handicap defined and estimated there, which I denote by  $H^*$ .  $H^*$  is defined<sup>1</sup> only in terms of the UHF affiliate in markets with three affiliates, exactly one of which is UHF. If the UHF station is given the index 1, then, using my notation,  $H^*$  is defined as

$$H^* = \frac{a_1 - A_1/uA}{a_1} \quad (3.7)$$

In contrast, my  $H$  is defined in terms of all stations in all three-station intermixed markets. But limiting attention to the UHF station in a three-station, one-UHF market, the following relationship holds:

<sup>1</sup>Staff Report, Appendix 1.





$$\frac{A_1}{uA} = \frac{(1-H)a_1}{(1-H)a_1 + a_2 + a_3} \quad (3.8)$$

Solving (3.8) for H, one obtains

$$H = \frac{a_1 - A_1/uA}{a_1(1-A_1/uA)} \quad (3.9)$$

Comparing (3.9) and (3.7), it is apparent that H is generally larger than  $H^*$ .

In fact, my estimated H of .543 does exceed the FCC staff's estimated  $H^*$  of .276 (for prime-time audience in the total survey area). Only part of the difference is accounted for by the differing definitions, though. From (3.7) and (3.9), H should tend to exceed  $H^*$  by a factor of  $1/(1-A_1/uA)$ . In my sample,  $A_1/uA$  averages about .2, so this factor is 1.25, while  $.543/.276 = 1.97$ .

#### VHF Independents

Attractiveness indices  $a_i$  are easily assigned for VHF independent stations using (3.2). All markets with VHF independents have three VHF network affiliates, so  $\sum_{NV} a_i = 1$ . Thus (3.2) becomes

$$a_i = A_i / \sum_{NV} A_i \quad (3.10)$$

That is,  $a_i$  for a VHF independent equals its audience expressed as a fraction of audience for all three network affiliates together.

#### UHF Independents

Assignment of  $a_i$  for UHF independents uses much the same method as for VHF independents, but in practice is somewhat more complicated. First, I rewrite (3.1) to take into account the UHF handicap in competing for over-the-air viewers:

$$A_i = \frac{(1-D_i)a_i}{\sum_V a_i} A_V + \frac{(1-D_i)H a_i}{\sum_U (1-D_i)H a_i} A_U + \frac{a_i}{\sum_C a_i} A_C \quad (3.11)$$



Assuming cable audiences to be negligible in 1968, only the middle term in (3.11) contributes to audiences for UHF independents. (The assumption is reasonable because independent stations are generally found in large markets, where cable penetration is typically still low.) For all UHF independents together (the set IU), we have from (3.11)

$$\sum_{IU} A_i = \frac{(1-H) \sum_{IU} a_i}{\sum_V a_i + (1-H) \sum_{NU} a_i + (1-H) \sum_{IU} a_i} A_U \quad (3.12)$$

where NU is the set of UHF network affiliates. Solving for  $\sum_{IU} a_i$ , one finds

$$\sum_{IU} a_i = \frac{\sum_V a_i + (1-H) \sum_{NU} a_i}{1-H} \frac{\sum_{IU} A_i}{A_U - \sum_{IU} A_i} \quad (3.13)$$

All the terms on the right hand side of (3.13) are given by previous work in this section, so the expression is easily evaluated. Partition of  $\sum_{IU} a_i$  among individual UHF independents is then made in proportion to  $A_i$ .

The assignment of  $a_i$ 's for independents (both VHF and UHF) is tautological in the sense that it assures by definition that the share hypothesis holds for these stations in their home markets. The assertion that the same  $a_i$  determine audience shares when these stations are carried into other markets is, however, far from empty. Unfortunately, there are very few data available with which to test it.

Three surveys that report cable viewing of Los Angeles independent stations in the San Diego and Bakersfield markets<sup>1</sup> provide the only readily available data that permit comparison of calculated and actual shares. These comparisons are summarized in Table 3.1. The calculated and observed shares are remarkably close for Bakersfield. For San Diego, the calculations generally overestimate the share of cable audience viewing distant signals. Overall, the agreement is good enough to lend some additional support to my basic audience share hypothesis.

<sup>1</sup>Reproduced in Staff Report, Appendices 2 and 3.



Table 3.1

CALCULATED VS. ACTUAL SHARES OF CABLE AUDIENCE  
FOR INDEPENDENT STATIONS IN DISTANT MARKETS

Independent Station	Bakersfield		San Diego	
	Calculated <sup>a</sup>	Observed <sup>b</sup>	Calculated <sup>a</sup>	Observed <sup>c</sup>
KTLA	5	8	5	4
KHJ	5	5		
KTTV	10	10	10	4
KCOP	5	4	5	3

Notes:

<sup>a</sup>Using method described in this chapter.

<sup>b</sup>American Research Bureau (ARB) special tabulation for November 1968.

<sup>c</sup>Weighted average of ARB special tabulations for February-March 1969 and February-March 1970.





#### IV. AUDIENCE-REVENUE RELATIONSHIPS

The results of Chapters II and III are used in the impact model to estimate the effect of cable on television stations' audience size. This chapter develops estimates that aid in translating changes in audience size into changes in broadcast revenues.<sup>1</sup>

The estimates go beyond previous work in a number of respects. Of particular importance to someone interested in the impact of cable are indications that additional audience is worth less to a large station than to a smaller one, and that distant audience is worth less than closer audience. Since cable growth will likely result in a loss of local audience to small stations and a gain of distant audience by large stations, both results suggest that the total value of audience may decrease as cable grows.

#### AGGREGATE RELATIONSHIPS

Fisher et al.,<sup>2</sup> and others as well, have reported a strong linear relationship between station broadcast revenues,  $R$ , and average prime-time<sup>3</sup> station audience,  $A_p$ :<sup>4</sup>

$$R = \beta_0 + \beta_1 A_p + u \quad (4.1)$$

where  $\beta_0$  and  $\beta_1$  are parameters to be estimated and  $u$  is an error term. Using individual station data for 1963,<sup>5</sup> Fisher estimates the

<sup>1</sup>Most of the work reported in this chapter was performed at the FCC computer facility, Washington, D. C., in order to preserve the confidentiality of proprietary financial data.

<sup>2</sup>Franklin M. Fisher and Victor E. Ferrall, Jr., in association with David Belsley and Bridger M. Mitchell, "Community Antenna Television Systems and Local Television Station Audience," Quarterly Journal of Economics, May 1966, pp. 227-251.

<sup>3</sup>7:30 p.m. to 11:00 p.m. in Eastern and Pacific time zones, 6:30 p.m. to 10:00 p.m. in Central and Mountain time zones, seven days a week.

<sup>4</sup>Defined as the number of households that tuned to that station during the average quarter-hour period during prime time.

<sup>5</sup>Revenue data are for 1963, audience data for March 1964.



relationship shown as line (1) of Table 4.1, and interprets it to mean "that an addition of one home to average prime time viewing (i.e., one home viewing three and one-half hours nightly) is worth on the average \$26.63 in yearly revenue."

Table 4.1

REGRESSION OF REVENUE ON AUDIENCE:  
AGGREGATE RELATIONSHIPS

	Year	Estimated Coefficients		R <sup>2</sup>
		Constant	Prime-Time Audience	
(1)	1963 (Fisher)	103.3 (2.28)	26.63 (68. )	.897
(2)	1968	13.4 (0.22)	43.20 (81.34)	.924

Using 1968 data,<sup>1</sup> I estimate the relationship in line (2). This indicates that the value of an average prime-time viewing home increased over the five-year period to about \$43, or about 10 percent per year compounded. (The method used for line (2) differs slightly from Fisher's in that satellite and parent stations' audiences and revenues are combined, and stations in operation only part of the year are excluded from the regression. Stations outside the 48 contiguous states are also excluded. A total of 543 observations remain. These changes have only a minor effect on the estimate.)

DISAGGREGATIVE RELATIONSHIPS

Upon reflection, it is apparent that the relationships shown in Table 4.1 may be inappropriately aggregated. By treating all stations alike, the relationships neglect a real difference between broadcast revenue of network stations and that of independents. Broadcast revenue reported by independents consists almost entirely of time

<sup>1</sup>Revenue for 1968, audience for March 1968.



sales to advertisers less commissions. For network stations, broadcast revenue also includes time sales to networks. This significant component of network stations' revenues -- about 18 percent on average in 1968 -- is understated relative to what an independent would report. The networks themselves sell time to advertisers and pass on only a part of the receipts to the stations -- 45 percent after commissions in 1968. They keep the rest as implicit compensation for programs that they supply to their affiliates without explicit charge. In other words, part of a network affiliate's real broadcast revenue is received in the form of free network programs, but this part of the revenue does not get recorded in the station's accounts. So there is at least one reason to expect that the audience-revenue relationship is different for network stations and independents.

Also, although Fisher did not find much evidence of curvature in the audience-revenue relationship,<sup>1</sup> I do not want to exclude the possibility that it may be curved. Accordingly, I specify the quadratic form

$$R = \beta_0 + \beta_1 A_p + \beta_2 A_p^2 + u \quad (4.2)$$

and estimate it separately for 485 network stations and 58 independents.

The results, shown in Table 4.2, strongly confirm the expectation that the relationship is different for network stations and independents. As shown by the analysis of variance in Table 4.3, the separate equations, lines (2) and (3) in Table 4.2, explain significantly more variance than does the equation for all stations lumped together, line (1), at well beyond the .01 level.

The results also strongly indicate that the relationships are curved. The estimated coefficient of the squared term is significantly negative at the .01 level in all cases. A negative coefficient indicates that the marginal value of audience decreases as audience size increases. For example, consider the relation between network station revenue and prime-time audience, line (2) in Table 4.2:

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<sup>1</sup>Franklin M. Fisher, et al., p. 232.





Table 4.2

REGRESSION OF REVENUE ON AUDIENCE:  
DISAGGREGATIVE, CURVED RELATIONSHIPS

Sample	Estimated Coefficients			R <sup>2</sup>
	Constant	Prime-Time Audience	Prime-Time Audience Squared	
(1) All stations	-287.2 (-4.13)	50.45 (46.61)	-.01197 (-7.57)	.932
(2) Network stations	-327.2 (-5.53)	48.21 (53.43)	-.00937 (-7.31)	.957
(3) Independents	-35.7 (-0.17)	88.10 (16.05)	-.08017 (-5.20)	.931

Table 4.3

ANALYSIS OF VARIANCE: NETWORK/INDEPENDENT CLASSIFICATION

Source of Variance	R-Squared	Sum of Squares (10 <sup>6</sup> )	Degrees of Freedom	Mean Square	F Statistic
Explained by line 1, Table 4.2	.932	9067	2		
Additional explained by lines 2 and 3, Table 4.2	<u>.020</u>	<u>194</u>	<u>3</u>	64.7	73.8 <sup>a</sup>
Total explained by lines 2 and 3, Table 4.2	.952	9261	5		
Unexplained residual	<u>.048</u>	<u>471</u>	<u>537</u>	.877	
Total	1.000	9732	542		

Note:

$$^a F_{3, 537, .01} = 3.82.$$



$$\hat{R} = -327.2 + 48.21A_p - .009373A_p^2 \quad (4.3)$$

The estimated value of an incremental prime-time home is given by

$$\frac{d\hat{R}}{dA_p} = 48.21 - .018746A_p \quad (4.4)$$

Equations (4.3) and (4.4) are plotted in Figure 4.1 over the range of  $A_p$  actually experienced, between zero and one million homes. Over this range, the value of an additional prime-time home decreases from 48 to 30 dollars per year.

The curvature of the audience-revenue relationship is important in estimating the impact of cable on broadcasting. Larger stations may gain audience and smaller stations lose audience as a result of cable growth. If the audience-revenue relationship is curved as indicated, revenue lost by the smaller stations will exceed revenue gained by the larger stations.

#### PRIME-TIME AUDIENCE VERSUS NON-PRIME-TIME AUDIENCE

So far I have used average prime-time audience as the sole measure of audience size, as did Fisher. This usage does not imply an assumption that only prime-time audience is worth anything. Such usage would be perfectly valid if proportions of total audience during different time periods were the same for all stations. In that case, audience during any single period would be a sufficient measure of audience during all periods.

In fact, of course, although they are highly correlated, prime-time and non-prime-time audience do not have the same ratio for all stations. There is even enough independent variation in prime-time and non-prime-time audience to make possible rough estimates of separate values of the two. A priori, there is no reason to believe that they are worth the same. In fact, there are good reasons to expect some difference in value. For example, prime-time audiences consist largely of adults, while non-prime-time audiences may consist largely of children and distracted housewives. One could be more attractive to advertisers than the other.



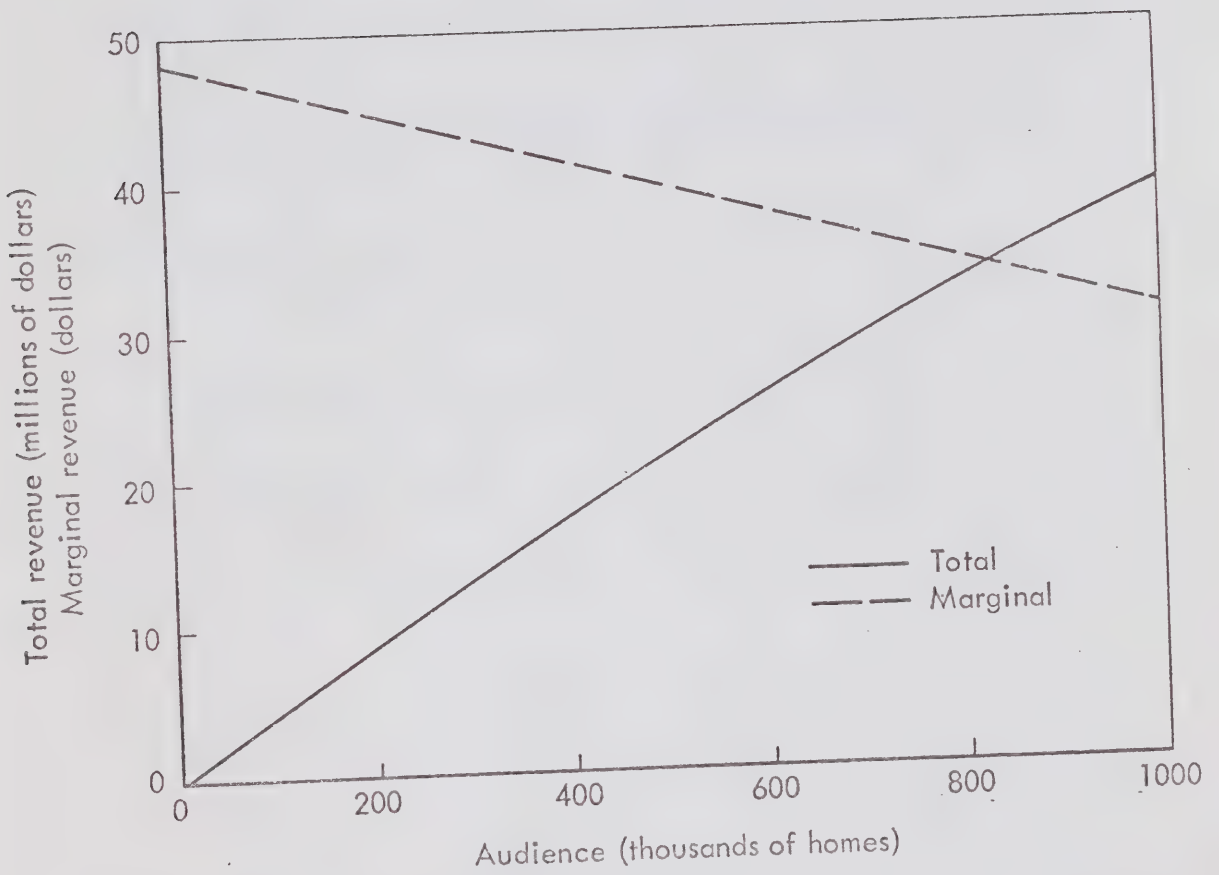


Fig.4.1—Value of prime-time audience for network stations





I hypothesize that stations derive revenue from the sale of two different products to advertisers: hours of prime-time viewing and hours of non-prime-time viewing. Denoting prime-time viewing hours by  $V_p$  and non-prime-time viewing hours by  $V_n$ , these quantities are related to average audience measures in the following way.

$$V_p = 3.5A_p \quad \text{and} \quad (4.5)$$

$$V_n = 15A_d - V_p \quad (4.6)$$

where  $A_p$  is average prime-time audience and  $A_d$  is average audience between 9 a.m. and midnight.

The relationship to be estimated is

$$R = \beta_0 + \beta_1 V_p + \beta_2 V_n + u \quad (4.7)$$

The results, shown in Table 4.4, indicate that a prime-time viewing hour brings in two to three times as much revenue for network stations as does a non-prime-time viewing hour. They also suggest that the difference is even greater in the case of independents. In fact, the estimated value of a non-prime-time hour to independents is not significantly different than zero.

The collinearity of the explanatory variables decreases the precision with which their separate effects are estimated, as is apparent from the low  $t$  values (relative to those in unreported regressions of the form  $R = \beta_0 + \beta_1 A_d$ ).<sup>1</sup> (Coefficients of correlation are .961 for all stations, .984 for network stations, and .939 for independents.) This is particularly troublesome in the case of the relationship for independents, with its smaller sample size and larger error variance. The estimates for independents cannot be taken to be anything more than merely suggestive. For both network stations and independents, however, the results provide strong evidence that prime-time viewing hours are more valuable than non-prime-time viewing hours. In all cases, the

<sup>1</sup>J. Johnston, Econometric Methods, New York, McGraw-Hill Book Co., 1963, pp. 204-206.



Table 4.4

REGRESSION OF REVENUE ON AUDIENCE:  
BETTER SPECIFIED (BUT HIGHLY COLLINEAR) MODEL

Sample	Estimated Coefficients			$R^2$
	Constant	Prime-Time Audience	Non-Prime-Time Audience	
(1) All Stations	-115.9 (-2.10)	6.93 (14.01)	4.24 (11.41)	.939 <sup>a</sup>
(2) Network stations	-154.5 (-3.06)	8.21 (12.27)	3.14 (5.91)	.956 <sup>a</sup>
(3) Independents	428.1 (1.82)	17.18 (7.27)	0.30 (0.28)	.897 <sup>a</sup>

Note:

<sup>a</sup>Additional variance explained, relative to  $R = \beta_0 + \beta_1 A_d$ , is significant at the .01 level.



equation in which the value of prime-time viewing hours is allowed to differ from the value of non-prime-time viewing hours explains significantly more variance than does the linear regression of  $R$  on  $A_d$  at well beyond the .01 level.

### SPATIAL RELATIONSHIPS

The curvature of the audience-revenue relationship in Table 4.2 is one reason to expect that audience diverted from one station to another as a result of cable growth may be worth less to the gaining station than to the losing station. There are also other reasons for suspecting that this may be so. Say, for example, that a Los Angeles station carried by cable captures some audience from a Bakersfield station. The value of the lost audience to the Bakersfield station is presumably given by the relationships developed above. The value of the same audience to the Los Angeles station may be considerably less. Certainly the audience in Bakersfield is not worth as much to Los Angeles local advertisers as is the closer audience. In addition, it may not be worth much to national advertisers buying time on the Los Angeles station as they may have to buy a Bakersfield station in order to get sufficient coverage in that market.

In this section I develop some evidence that tends to support the hypothesis that distant audience is worth less to a station than is local audience.

The estimates here make use of data on audience within specified zones around each station.<sup>1</sup> If there are three zones, the relationship to be estimated is

$$R = \beta_0 + \beta_1 A_1 + \beta_2 A_2 + \beta_3 A_3 + u \quad (4.8)$$

where  $A_1$  is audience in the closest in zone,  $A_2$  audience in the middle zone, and  $A_3$  audience in the farthest out zone.

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<sup>1</sup>From American Research Bureau, Day-Part Television Audience Summary, November 1968.





Zones used are based on American Research Bureau classifications.<sup>1</sup> ARB reports associate three nested areas with most television markets:

- o Metro area, which corresponds roughly to the Department of Commerce's standard metropolitan statistical area (SMSA). Not all markets have a metro area.

- o Area of dominant influence (ADI), in which the market's stations attract more than half of all television audience.

- o Total survey area (TSA), which extends beyond the area of dominant influence to include roughly 98 percent of all viewing of the market's stations.

The corresponding zones assign audience in the metro area to  $A_1$ , audience in the ADI but not in the metro area to  $A_2$ , and audience in the TSA but not the ADI to  $A_3$ . Estimates based on this division are shown in line (1) of Table 4.5 using observations on all 527 stations for which complete information is available, and in line (2) for the 478 network stations separately. Separate regressions for independents consistently fail to explain significantly more variance than do corresponding equations in which all audience is valued the same regardless of location; these regressions for independents only are not reported.

The estimates show the expected pattern, with closer audience generally being valued higher than more distant audience.

Regressions that divide audience into two (rather than three) parts are also shown in Table 4.5. Lines (3) and (4) estimate value of audience within the metro area versus value outside the metro area. Lines (5) and (6) estimate value within the ADI versus value outside the ADI. All show the expected pattern of value decreasing with distance.

Four of the equations in Table 4.5 explain significantly more variance at the .01 level than do the corresponding equations in which

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<sup>1</sup>Michael Horn of Covington and Burling suggested using these classifications.



Table 4.5  
REGRESSION OF REVENUE ON AUDIENCE: SPATIAL DISAGGREGATION

Sample	Estimated Coefficients				R <sup>2</sup>
	Constant	A <sub>1</sub>	A <sub>2</sub>	A <sub>1</sub> +A <sub>2</sub> A <sub>3</sub> A <sub>2</sub> +A <sub>3</sub>	
(1) All stations	216.8 (2.87)	43.07 (51.50)	34.23 (9.56)	27.81 (4.68)	.919 <sup>a</sup>
(2) Network stations	55.9 (0.92)	40.88 (64.31)	40.97 (15.03)	26.39 (5.93)	.954 <sup>a</sup>
(3) All stations	218.0 (2.87)	43.19 (52.49)		32.34 (11.37)	.919 <sup>a</sup>
(4) Network stations	59.8 (0.98)	41.19 (65.56)		36.66 (16.67)	.953
(5) All stations	143.3 (2.12)			41.78 (71.47)	.918 <sup>b</sup>
(6) Network stations	56.8 (1.08)			40.89 (93.07)	.954 <sup>a</sup>

Notes:

<sup>a</sup>Additional variance explained, relative to  $R = \beta_0 + \beta_1 (A_1 + A_2 + A_3)$ , is significant at the .01 level.

<sup>b</sup>Additional variance explained, relative to  $R = \beta_0 + \beta_1 (A_1 + A_2 + A_3)$ , is significant at the .05 level.



all audience is valued the same regardless of location. Another explains significantly more variance at the .05 level. The results provide fairly strong support for the hypothesis that distant audience is worth less than closer audience.

#### SUMMARY

The value of audience to television stations grew at an average compounded rate of 10 percent per year from 1963 to 1968.

The audience-revenue relationship is different for network stations and independents. Both relationships are curved so that an additional viewing home is worth less to a large station than to a small one. Since large stations will likely gain and small stations lose audience as a result of cable growth, this is one reason to expect a negative impact on aggregate station revenue.

An additional household viewing one hour during prime time is apparently worth two to three times as much as is a household viewing one hour during non-prime time.

Distant audience is worth less than close audience. For example, audience outside the area of dominant influence (ADI) is worth about two-thirds as much as audience within the ADI. This is another reason to expect cable growth to have a negative impact on aggregate station revenue.





## V. REVENUE-PROGRAMMING RELATIONSHIPS

One reason for concern over the possibility that cable growth may reduce the revenues of television broadcasters posits a relationship between revenues and programming performance. Should revenues decline, the argument goes, broadcasters would have to reduce the quantity and quality of public service and locally originated programming.<sup>1</sup>

To develop evidence on this point, I now explore relationships between programming and revenues in a cross section of stations during 1968.<sup>2</sup> The basic sample includes 567 stations. These are all the stations that have reported financial data for 1968 to the Federal Communications Commission (FCC), except for stations that operated only part of the year. Data for satellite stations are aggregated with those for their parents.

The results strongly support the view that both quantity and quality of local programming are positively related to station revenue.

### QUANTITY: PUBLIC SERVICE AND LOCAL PROGRAMMING HOURS

The first set of results deals with the relationship between revenues and quantity of public service and local programming.

In a license renewal application form<sup>3</sup> filed with the FCC every three years, television stations are required to provide some information about their programming practices. Among other things, they

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<sup>1</sup>The implicit assumption seems to be that expenditures for public service and local programming are limited to some fraction (or more general function) of revenues; broadcasters cannot "afford" to spend more. A somewhat more sophisticated model would explain programming expenditures as a profit maximizing choice rather than a simple function of revenue. Such a model is the topic of a planned paper. The empirical work in this chapter, though, makes do with the simpler model.

<sup>2</sup>Most of the work reported in this chapter was performed at the FCC computer facility, Washington, D.C., in order to preserve the confidentiality of proprietary financial data.

<sup>3</sup>FCC Form 303, Application for Renewal of Broadcast Station License, on file in the public reference room at FCC headquarters, Washington, D.C.



report the time during a composite week<sup>1</sup> devoted to news, to public affairs, and to all other programs except for entertainment and sports. I take the sum of these three categories to be a measure of the quantity of public service programming broadcast by a station.

Information on these measures of programming is taken from the most recent application file for 291 stations chosen unsystematically<sup>2</sup> from the 567 stations in the basic sample. To investigate whether or not these measures of programming are related to revenue, I rank the 567 stations in the basic sample by revenue, then divide them into six groups of 94 or 95 stations each. Dummy variables are assigned to differentiate among the revenue sextiles, with  $D_1 = 1$ ,  $D_2 = \dots = D_6 = 0$  if the station falls in the lowest sextile, and similarly for the others. Then to test for a relationship between, say, my basic measure of public service programming  $P$  and revenue, I estimate the  $\beta$  parameters in

$$P = \beta_1 D_1 + \dots + \beta_6 D_6 + u \quad (5.1)$$

where  $u$  is an error term.<sup>3</sup>

### Public Service Programming

The results of this first regression are shown as line (1) in Table 5.1. Stations in the lowest sextile broadcast an average of 15 hours a week of public service programming. There is a steady increase through the ranks, with stations in the highest sextile

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<sup>1</sup>The composite week consists of one Sunday, one Monday, etc., from the year previous to that in which the report is filed, selected by the FCC and made known only after the conclusion of the year it is to represent.

<sup>2</sup>These are the files that the FCC librarian fetched when asked for the most recent file on each commercial television station. Most are applications filed in 1968 and 1969, with a few from the last quarter of 1967.

<sup>3</sup> $P$  is also estimated as a quadratic function of revenue, but this form explains considerably less variance than do the revenue sextiles.



Table 5.1

## PUBLIC SERVICE PROGRAMMING HOURS BY REVENUE SEXTILE

Sample	Dependent Variable <sup>a</sup>	Revenue Sextile					R <sup>2</sup>
		Lowest	Second	Third	Fourth	Fifth	Highest
(1) All stations	P	15.42 (14.46)	18.46 (19.27)	20.72 (18.79)	21.87 (21.38)	24.16 (24.32)	27.05 (24.24)
(2) All stations	P <sub>p</sub>	9.71 (13.31)	11.77 (17.96)	12.89 (17.09)	12.90 (18.44)	13.65 (20.10)	16.57 (21.71)
(3) Network stations	P	16.20 (14.61)	19.32 (21.24)	21.02 (20.77)	22.41 (23.42)	24.72 (26.91)	28.26 (25.85)
(4) Network stations	P <sub>p</sub>	9.85 (13.99)	12.42 (21.50)	13.04 (20.29)	13.39 (22.03)	13.99 (23.99)	17.59 (25.34)

Note:

<sup>a</sup>p is hours per week of all non-entertainment programming.<sub>p</sub> is hours per week of news and public affairs programming.





offering 27 hours of public service programming. In a second regression, line (2), the dependent variable is the sum of news and public affairs hours, excluding the catch-all "other programs except for entertainment and sports." Again, a steady increase is shown as revenue increases. Although there is a good deal of variation in public service programming within sextiles, as shown by the low  $R^2$ , the sextile means are accurately estimated, as indicated by the high  $t$  values.

One suspects that the relationship may be different for network and independent stations, so I also run separate regressions for the two groups. The results for the 263 network stations are shown in lines (3) and (4). There is some sharpening of the estimates (higher  $t$  values and  $R^2$ 's) but the general pattern is little changed. Results for the 28 independent stations in the sample are not significant and not reported.

#### Local Programming

In the license renewal form, stations also report the time devoted to local programs (as distinguished from network and syndicated programs) during three time periods: 8:00 a.m. to 6:00 p.m., 6:00 p.m. to 11:00 p.m., and all other hours. The sum of these three categories is my basic measure of quantity of local programming.

Similar results concerning the relation of local programming hours to revenue are shown in Table 5.2. The relation for all stations, line (1), is much like that for public service hours. With the exception of an anomolous 14 hours in the lowest sextile, local programming rises consistently with revenue from an average of 11 hours per week in the second sextile to over 20 hours per week in the highest. The anomaly disappears in the regression for network stations only, line (3), indicating that a few low-revenue independents account for the bulge in line (1).



Table 5.2

## LOCAL PROGRAMMING HOURS BY REVENUE SEXTILE

Sample	Dependent Variable <sup>a</sup>	Revenue Sextile					R <sup>2</sup>
		Lowest	Second	Third	Fourth	Fifth	Highest
(1) All stations	L	13.82 (8.89)	10.82 (7.74)	11.97 (7.44)	14.95 (10.03)	15.40 (10.63)	20.56 (12.63) .078
(2) All stations	L <sub>p</sub>	4.31 (7.09)	3.81 (6.99)	3.98 (6.33)	4.72 (8.10)	3.76 (6.64)	4.97 (7.82) .012
(3) Network stations	L	9.91 (8.87)	11.01 (12.01)	12.04 (11.80)	14.90 (15.46)	15.69 (16.95)	19.86 (18.02) .190
(4) Network stations	L <sub>p</sub>	3.43 (5.25)	3.74 (6.98)	4.00 (6.70)	4.66 (8.26)	3.75 (6.91)	4.64 (7.20) .014

## Note:

<sup>a</sup>L is total hours per week of local programming.L<sub>p</sub> is hours per week between 6:00 p.m. and 11:00 p.m. of local programming.



### Local Programming During Prime-Time

Lines (2) and (4) show the results for local programming during the 6:00 p.m. to 11:00 p.m. period. In contrast to total local programming, prime-time local programming shows no significant relation to revenues; the six revenue classes do not account for a statistically significant portion of the variance in prime-time local programming. Stations with higher revenues broadcast more hours of local programming, but the additional hours fall outside of prime time.

### Revenue Means

In the next section it is useful to know revenue means in the sextiles, so these are recorded in Table 5.3. They are computed by regressing revenue on dummy variables for the revenue sextiles, so  $t$  values and  $R^2$ 's are also reported. The sextiles are those used throughout this chapter, partitioning all 567 stations as one group. Thus, for example, 10680 is the mean revenue for independents in the highest overall sextile, not the highest sextile for independents alone.

Table 5.3

#### MEAN BROADCAST REVENUE IN REVENUE SEXTILE

Sample	Revenue Sextile						$R^2$
	Lowest	Second	Third	Fourth	Fifth	Highest	
(1) All stations	243 (0.86)	652 (2.30)	1053 (3.73)	1597 (5.66)	2881 (10.21)	9438 (33.26)	.569
(2) Network stations	272 (0.78)	652 (2.14)	1058 (3.60)	1587 (5.30)	2871 (9.65)	9256 (29.87)	.543
(3) Independents	177 (0.41)	653 (0.84)	955 (0.82)	1734 (1.96)	3034 (3.18)	10680 (15.82)	.751



QUALITY: EXPENDITURES PER HOUR OF LOCAL PROGRAMMING

Relationships in the previous section indicate that quantity of local programming increases with revenue. This section develops a measure of quality of local programming and investigates its relation to station revenue.

I take expenditures per hour of local programming to be a rough measure of quality. It is surely not a perfect measure. It uses cost of inputs as an index of output, and there is room for many a slip between the two, but surely there is a strong general tendency for higher cost local programming to be better local programming.

A Measure of Expenditure for Local Programming

The first task, then, is to extract some measure of local programming expenditure from available data. Annual reports filed by television stations with the FCC<sup>1</sup> include a variety of financial data that can be used for this purpose.

The starting point is total programming expenditures. From these are deducted certain reported expenditures for non-local programming. The major item deducted is film and tape rental; minor items are fees for use of records and transcriptions, and the cost of outside news services. The resulting measure, which I denote by E, overstates local programming expenditures somewhat. It includes, for example, all expenses incurred in selecting and contracting for syndicated material. These expenses are not separately reported, so there is no way to deduct them.

This measure of local programming expenditure is highly correlated with revenue, as shown in Table 5.4. Local programming expenditures are expressed as a quadratic function of revenue.<sup>2</sup> Separate

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<sup>1</sup>FCC Form 324, Annual Financial Report of Networks and Licenses of Broadcast Stations.

<sup>2</sup>The quadratic form explains roughly twice as much variance as do sextile means, indicating that there is considerable systematic variation of expenditures within sextiles.





Table 5.4.

LOCAL PROGRAMMING EXPENDITURE AS  
FUNCTION OF BROADCAST REVENUE

Sample	Dependent Variable <sup>a</sup>	Estimated Coefficients			R <sup>2</sup>
		Constant	Revenue <sup>b</sup>	Revenue Squared	
(1) All stations	E	49.27 (3.74)	.1651 (33.57)	.5036(10 <sup>-6</sup> ) (2.81)	.917
(2) Network stations	E	58.18 (5.60)	.1513 (38.96)	.8601(10 <sup>-6</sup> ) (6.00)	.950
(3) Independents	E	91.75 (1.53)	.2115 (18.48)		.844

Notes:

<sup>a</sup>E is expenditure for programming net of film and tape rental fees and certain other outside expenses, in thousands of dollars.

<sup>b</sup>In thousands of dollars.



regressions for 499 network stations and 65 independents, lines (2) and (3) in Table 5.3, are plotted in Figure 5.1. For the network stations, the relation is concave upward; the coefficient of the squared term is significantly positive at well beyond the .01 level. For independents, however, the relation shown is a linear one; in a previous, unreported regression the t statistic for the squared term is less than one in absolute value. Since the linear hypothesis is not rejected at any conventional significance level, the squared term is dropped in the reported regression.

Local programming expenditures increase proportionately much more rapidly with station revenue than do local programming hours. Average hours approximately double from the lowest to the highest revenue sextile.<sup>1</sup> For comparison, line (2) estimates network station local programming expenditures to be \$99,000 when evaluated at lowest sextile mean revenue,<sup>2</sup> and \$1,563,000 at the highest sextile mean, a more than fifteen-fold increase. Similarly, estimated expenditures for independents show an eighteen-fold increase from the lowest to the highest sextile mean revenue. This strongly suggests that my measure of local program quality, expenditure per hour, also increases with station revenue.

Also shown in Figure 5.1 are the marginal relations implied by lines (2) and (3) of Table 5.4. These indicate that a network station at the lowest revenue sextile mean spends about 15 cents of an additional revenue dollar on local programming; at the highest sextile mean, 17 percent of marginal revenue goes for local programming. For all independents, the estimated relationship implies that 21 cents of a marginal revenue dollar is spent on local programming on average.

#### Quality Regressions

The evidence so far hints that quality of local programming increases as station revenue increases. In this subsection I examine

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<sup>1</sup>Table 5.2.

<sup>2</sup>Table 5.3.



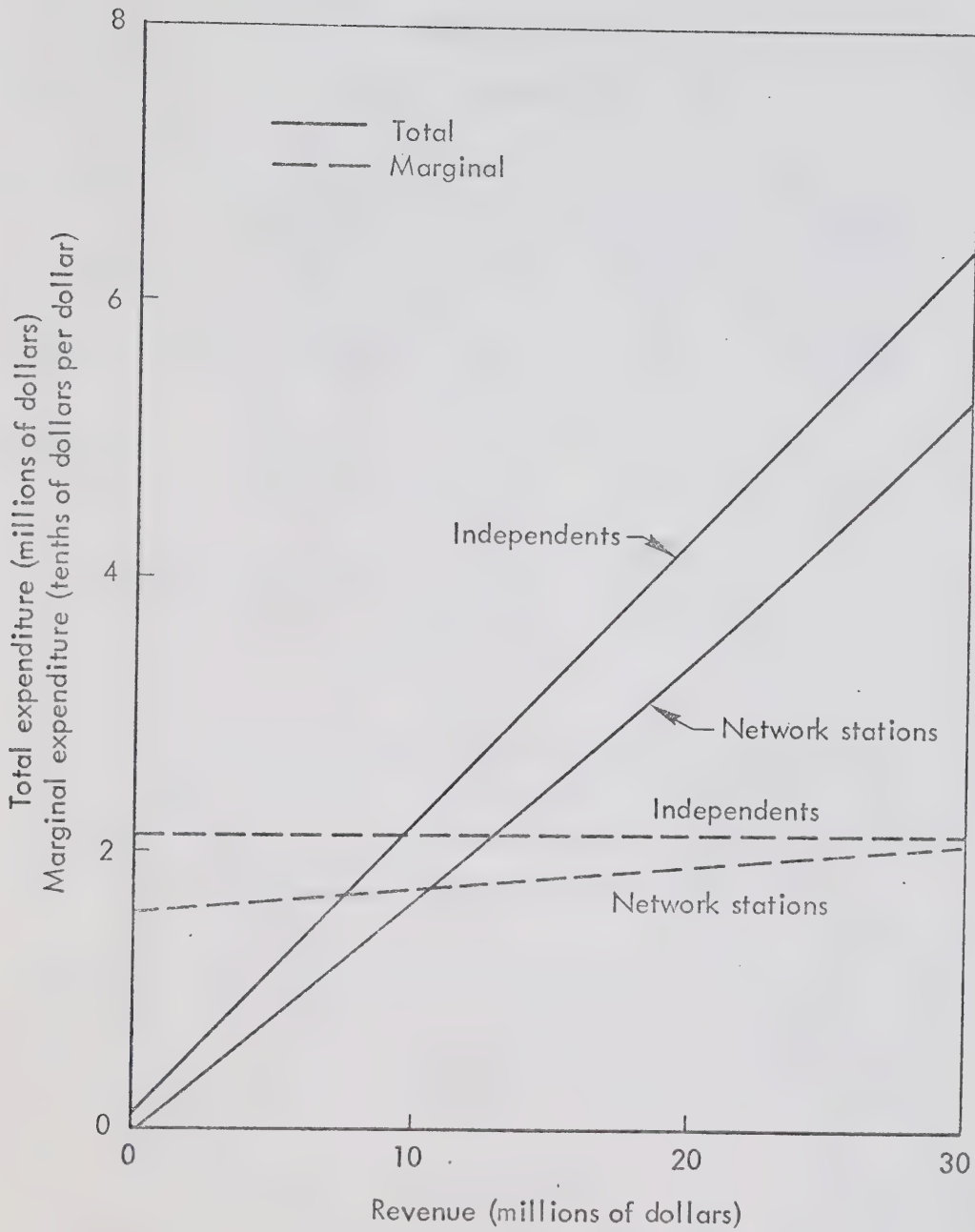


Fig.5.1—Local programming expenditure





directly the relationship between revenue and my index of quality, and confirm that there is a positive correlation between the two.

Relevant regression results are shown in Table 5.5. The quality index, expenditure per hour of local programming, is estimated as a

Table 5.5  
QUALITY REGRESSIONS

Sample	Dependent Variable (\$/hr)	Estimated Coefficients			$R^2$
		Constant	Revenue (\$ Thous.)	Revenue Squared	
(1) All stations	1000E/52L	277 (6.57)	.132 (8.37)	.929( $10^{-6}$ ) (1.75)	.667
(2) Network stations	1000E/52L	265 (6.47)	.132 (8.51)	1.034( $10^{-6}$ ) (2.04)	.712
(3) Independents	1000E/52L	427 (2.21)	.124 (3.75)		.370

quadratic function of station revenue. The regression for all stations is based on 288 observations for which all necessary data are available. Lines (2) and (3), which show separately the results for 262 network stations and 26 independents, are plotted in Figure 5.2.

The relationship for network stations is concave upwards; that for independents is taken to be linear because the coefficient of the revenue squared term in an earlier, unreported regression is not significantly different than zero. (Its  $t$  statistic is less than one in absolute value.)

Both network stations and independents show a striking increase in quality index as revenue increases. The quality index for network stations goes from \$301 to \$1,511 per hour when line (2) is evaluated at the lowest and highest revenue sextile means. That for independents increases from \$449 to \$1,751 per hour when evaluated in the same way.



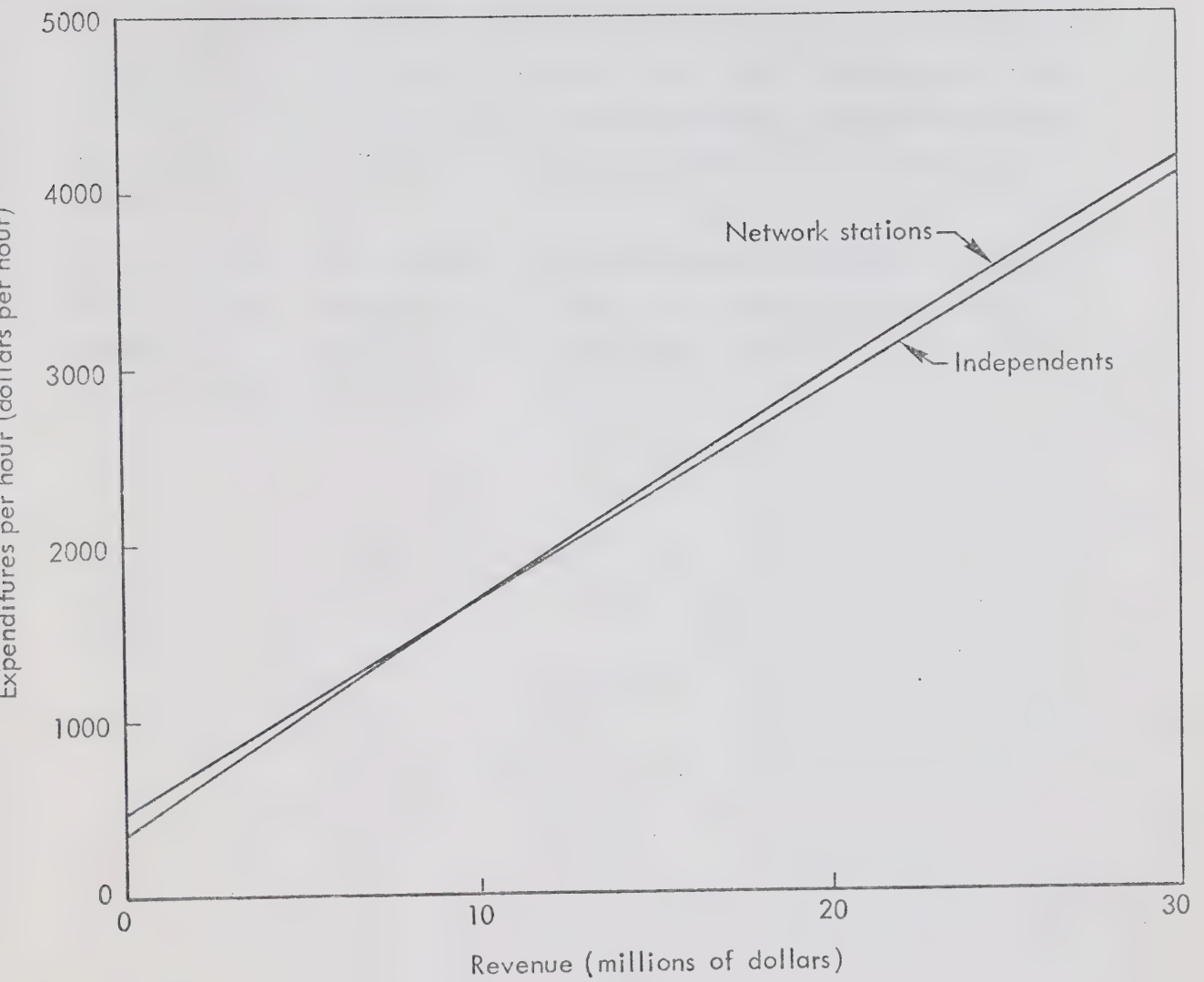


Fig.5.2—Quality of local programming



## SUMMARY

Relationships between quantity and quality of public service and local programming, on one hand, and station revenue on the other, are explored in a 1968 cross section of television stations. In almost all cases, strong positive relationships are found.

Stations in the highest revenue sextile broadcast, on average, roughly twice as many hours per week of both public service and local programming as do stations in the lowest sextile. Local programming hours during prime time, however, are not significantly related to revenue.

Expenditure per hour of local programming is defined as a rough index of local program quality. This quality index also increases markedly with revenue, at least quadrupling from the lowest to the highest revenue sextile.



## VI. IMPACT MODEL

Although some of the work reported in Chapters II through V is of interest in itself, the more important reason for it is to build the impact model in this chapter. Chapters II through V are the pieces out of which the impact model is constructed.

### THE MODEL

We have in hand average relationships between service provided over the cable and cable penetration (Chapter II), between station audience and revenue (Chapter IV), and between revenue and local programming expenditure (Chapter V). We also have a method for predicting audience shares (Chapter III). This section describes how they fit together to form the impact model.

### Cable Penetration

The impact model compares television station audience, revenue, and local programming expenditure with and without cable. For the "without cable" case, cable penetration is zero. For the "with cable" case, ultimate penetration levels as estimated in Chapter II are used. Specifically, it is the values recorded in Figure 2.3, as translated in Figure 2.4, that are used. That is, cable penetration is expressed in terms of fraction of audience expected ultimately to subscribe to cable.

The use of these values is somewhat conservative, in the sense that it tends to overestimate the impact of cable. The penetration estimates really apply only to fairly well built up areas, such as those included in my sample. Penetration is likely to be less in more sparsely populated areas, even zero in some. Penetration estimates on the high side lead, of course, to impact estimates on the high side.

(Throughout, I use "conservative" to describe assumptions that tend to increase estimated cable impact. Most of the assumptions used are conservative, making it likely that the impact estimates are





upper bounds. That is, one can be reasonably confident that impact will not exceed the estimates reported here, at least under the circumstances envisioned.)

### Audience Shares

The method described in Chapter III is used to assign "attractiveness" indices  $a_i$  to all commercial stations in the markets encompassed by the impact model. These  $a_i$  indices are used to calculate audiences in the two cases, one with cable and one without cable.

The model encompasses the top 200 markets<sup>1</sup> excluding 14 unusual ones. Seven of the 14 are excluded because home market stations have no area of dominant influence (ADI), thus grossly deviating from my assumption of autarkic markets. Most of the others are excluded because they have more than three network stations (not counting satellites) or none at all.

The autarkic market, or no audience overlap, assumption means that all audience is treated as though it can receive only those stations serving that market. In fact, of course, signals from two or more markets can be received by many television homes, particularly those located near edges of markets. My assumption is thus a conservative one, tending to increase the estimated impact of cable. To see this, consider a one-station market into which an equally attractive distant signal is imported. In the model, half of the cable audience is lost to the local station. But say some homes at the edge of the market can receive a signal from a neighboring market. Local station audience among cable subscribers in such an area declines only one-third, from one-half to one-third of total audience. Thus, impact of cable would tend to be overestimated in the model.

Another mildly conservative assumption is that total audience is fixed for each market, taken to equal the sum of audience for all stations in the market. Total audience splits differently when distant

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<sup>1</sup>Ranked by American Research Bureau (ARB) net weekly circulation for March 1968, as listed in Television Factbook, pp. 54a-56a.



signals are brought into the market, but does not increase. To the extent that additional signals induce additional viewing, this assumption is conservative.

### Revenue

The calculation of revenue from local audience is based on prime-time audience using lines (2) and (3) of Table 4.5; that is, by applying estimated curved relationships separately to network and to independent stations.

The model could be (perhaps should be, perhaps will be) improved by basing revenue on non-prime-time audience in addition to prime-time audience.<sup>1</sup> Doing so would probably tend to increase somewhat the estimated impact of cable. We know that independent stations on average have larger shares of the audience during non-prime time than during prime time. Thus, distant signals can be expected to make larger inroads into local audience during non-prime time than during prime time. Further, the evidence of Chapter IV is that non-prime-time audience contributes substantially to revenue, at least for network stations. From Table 4.4, a household viewing continuously during 3.5 hours of prime time is worth  $3.5 \times 8.21 = \$28.74$  per year, and a household viewing continuously during 11.5 hours of non-prime time is worth  $11.5 \times 3.14 = \$36.11$ . Since prime-time audience is on the average about twice as large as non-prime-time audience, the latter accounts for almost 40 percent of revenue:  $36.11 / (2 \times 28.74 + 36.11) = .385$ . For independent stations, it is less clear that disaggregation would lead to a noticeable change in estimated impact; the evidence of Table 4.4 is that non-prime-time audience is of little value to independent stations.

The above deals only with revenue from local audience. Calculation of revenue from distant audience makes use of relationships reported in Table 4.5, in a way described below.

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<sup>1</sup>Pressure of time precluded working out the improved model for this Report.



### Local Programming Expenditure

The impact model also compares local programming expenditure, as a combined indicator of quantity and quality of local programming, with and without cable. Line (2) of Table 5.4 is used to calculate local programming expenditure for network stations, line (3) for independents.

### THE RESULTS

In this section I present results on the impact of cable in three different environments:

- o 1960's environment, in which UHF set penetration by market is as reported for November 1968 by Television Factbook,<sup>1</sup> and UHF handicap due to antenna, transmitter and tuner differences is as estimated in Chapter III using 1968 data.

- o 1970's environment, in which UHF set penetration is assumed to reach 100 percent, but UHF handicap due to the other factors remains unchanged.

- o 1980's environment, in which technological improvements are assumed to have eliminated UHF handicap entirely. This is an extreme assumption. Although almost all receivers in use in the 1980s will undoubtedly have comparable UHF tuners, this, together with other technological advances, is not likely to eliminate the UHF handicap entirely.

In each of these environments, I examine the effect of cable carrying the following set of distant signals:

In all markets, sufficient network signals (if necessary) to provide three-network service;

In the top 100 markets, four other signals are carried equivalent to the strongest independent from New York, Chicago, and Los Angeles, respectively, plus the second strongest independent in New York;

In the second 100 markets, only three of these independent signals are carried.

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<sup>1</sup>Television Factbook, pp. 22a-25a.





This is an extremely strong lineup of distant signals. At least for the near term, its use is certainly conservative. It tends to overestimate impact of cable, since most lineups will not really be that strong. In the longer term, popular independents may act more and more like cable networks, increasing attractiveness of their programming, possibly so much so that distant signal lineups may even exceed in strength the one assumed here.<sup>1</sup>

One is interested in the incidence of cable impact, as well as its overall magnitude, so the results are presented in fairly disaggregated form. Along one dimension, I distinguish among four types of station: network VHF, network UHF, independent VHF, and independent UHF, using the symbols listed in Table 6.1 to denote each type. Along another dimension, I distinguish among markets in two different ways. First, by market rank; results are reported for top 50, second 50, third 50, and fourth 50 markets. Second, based on number and type of stations in the market; the different types of market are as defined in Table 6.1. In overview, markets of types I-IV all have three network VHF stations, but decreasing levels of independent service. Types V, VI, VII all have three network stations, one, two, or all three of which, respectively, are UHF. Type VIII has two network stations, both VHF. Type IX has a single network station, a VHF. Other types defined in the table are less common.

Table 6.2 shows the number of stations in the model that fall into each classification using market rank. Table 6.3 shows number of stations by type of market.

#### Impact of Cable in a 1960's Environment

My 1960's environment, recall, is characterized by UHF set penetration and UHF handicap both at 1968 levels.

Before turning to the tabulated results, I stress that they reflect only effect on local audience. Stations carried by cable into distant

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<sup>1</sup>Prospects for cable networks, formal and informal, are analyzed in a planned paper.



Table 6.1  
DEFINITION OF SYMBOLS

Symbol	Definition
<u>Type of Station</u>	
NV	Network VHF
NU	Network UHF
IV	Independent VHF
IU	Independent UHF
<u>Type of Market</u>	
I	3 NV, 2 or more IV
II	3 NV, 1 IV
III	3 NV, 0 IV, 1 or more IU
IV	3 NV only
V	2 NV, 1 NU
VI	1 NV, 2 NU
VII	0 NV, 3 NU
VIII	2 NV, 0 NU
IX	1 NV, 0 NU
X <sup>a</sup>	1 NV, 1 NU
XI <sup>a</sup>	0 NV, 2 NU
XII <sup>a</sup>	0 NV, 1 NU
XIII <sup>b</sup>	All others

Notes:

<sup>a</sup> Market types X, XI, and XII are not reported in detail because classifications contain fewer than five stations, but they are included in the totals.

<sup>b</sup> Markets of type XIII, which have four or more network affiliates not counting satellites, or no network stations, are excluded from the model.



Table 6.2

NUMBER OF STATIONS IN MODEL BY MARKET RANK

Type of Station <sup>a</sup>	Market Rank				
	1-50	51-100	101-150	151-200	1-200
NV	135	93	90	65	383
NU	6	34	18	3	61
IV	19	1	1	1	22
IU	38	5	3	0	46
All	198	132	112	69	512

Note:

<sup>a</sup>See Table 6.1 for definitions.

Table 6.3

NUMBER OF STATIONS IN MODEL BY TYPE OF MARKET

Type of Station <sup>a</sup>	Type of Market <sup>a</sup>												All
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
NV	9	39	42	147	24	8	0	79	32	3	0	0	383
NU	0	0	0	0	12	16	24	0	0	3	4	2	61
IV	9	13	0	0	0	0	0	0	0	0	0	0	22
IU	5	11	20	0	3	0	2	5	0	0	0	0	46
All	23	63	62	147	39	24	26	84	32	6	4	2	512

Note:

<sup>a</sup>See Table 6.1 for definitions.



markets have, in addition, distant audience that also contributes to revenue. The magnitude and incidence of revenue to be expected from distant audience are discussed below.

Results shown in Table 6.4 by market rank and in Table 6.5 by type of market exhibit some striking patterns. I discuss them in terms of revenue, which is probably of most interest; patterns of impact on audience and local programming expenditure are similar, although numerical values differ.

Overall, when cable reaches ultimate penetration and carries the strong set of distant signals described above, station revenue (attributable to local audience) is reduced to 82 percent. There is, though, considerable variation among markets and among different kinds of stations.

Generally, stations in smaller markets are harder hit than those in larger markets. Those in the top 50 markets retain, on average, 86 percent of their without-cable revenue; in the fourth 50 markets they retain only 45 percent, on average. This structure shows up even more strongly in Table 6.5. Stations in markets of type I, those with two or more VHF independent stations, retain on average 90 percent of without-cable revenue. Stations in other markets with full network service, types II through VII, retain about 80 to 85 percent of without-cable revenue. Markets with only two network stations, type VIII, drop to 57 percent; those with only one, type IX, drop to 35 percent.

The reasons that stations in smaller markets are harder hit are easy to see. Most importantly, distant signals capture a smaller share of audience when competing with a large number of local signals than they do in less well endowed markets. Also, cable penetration is expected to be higher in markets with fewer local signals. Third, additional network signals are assumed to be brought into markets with fewer than three network stations. Tending to work in the other direction is the assumption that only three independents are brought into the second 100 markets, compared with four in the top 100. On balance, though, it certainly seems reasonable that the smaller markets should be harder hit.





Table 6.4

IMPACT OF CABLE IN A 1960's ENVIRONMENT BY MARKET RANK

Type of Station <sup>a</sup>	Market Rank				
	1-50	51-100	101-150	151-200	1-200
	<u>Audience<sup>b</sup></u>				
NV	83	79	75	64	81
NU	139	88	97	c	94
IV	86	c	c	c	86
IU	150	163	c	c	150
All	85	81	77	65	82
	<u>Revenue<sup>b</sup></u>				
NV	83	76	68	45	79
NU	155	84	95	c	92
IV	89	c	c	c	89
IU	151	180	c	c	151
All	86	78	70	45	82
	<u>Local Programming Expenditure<sup>b</sup></u>				
NV	83	79	76	67	81
NU	138	88	97	c	94
IV	89	c	c	c	89
IU	133	119	c	c	132
All	87	81	79	68	85

Notes:

<sup>a</sup>See Table 6.1 for definitions.

<sup>b</sup>All figures are value in presence of cable, expressed as percentage of value in absence of cable. All figures reflect the effect on local audience only. Distant audience increases values in some cases; see text.

<sup>c</sup>Classifications with fewer than five stations are not reported in detail, but are included in totals.



Table 6.5

IMPACT OF CABLE IN A 1960's ENVIRONMENT BY TYPE OF MARKET

Type of Station <sup>a</sup>	Type of Market <sup>a</sup>									
	I	II	III	IV	V	VI	VII	VIII	IX	All
<u>Audience<sup>b</sup></u>										
NV	87	84	81	84	76	70	c	66	52	81
NU	c	c	c	c	141	102	84	c	c	94
IV	88	84	c	c	c	c	c	c	c	86
IU	163	160	150	c	c	c	c	121	c	150
All	88	85	84	84	84	84	84	66	52	82
<u>Revenue<sup>b</sup></u>										
NV	89	84	81	81	73	66	c	56	35	79
NU	c	c	c	c	167	103	81	c	c	92
IV	91	85	c	c	c	c	c	c	c	89
IU	168	164	149	c	c	c	c	122	c	151
All	90	85	86	81	82	79	80	57	35	82
<u>Local Programming Expenditure<sup>b</sup></u>										
NV	88	84	81	84	76	71	c	67	56	81
NU	c	c	c	c	138	102	85	c	c	94
IV	91	87	c	c	c	c	c	c	c	89
IU	129	132	136	c	c	c	c	109	c	132
All	90	86	88	84	85	84	85	69	56	85

Notes:

<sup>a</sup>See Table 6.1 for definitions.

<sup>b</sup>All figures are value in presence of cable, expressed as percentage of value in absence of cable. All figures reflect the effect on local audience only. Distant audience increases values in some cases; see text.

<sup>c</sup>Classifications with fewer than five stations are not reported in detail, but are included in totals.



There are also striking differences in how different kinds of stations are affected. Generally, UHF stations are less harmed (sometimes even benefited) by cable than are VHF stations. Network affiliated UHFs in the model retain, on average, 92 percent of without-cable revenue, and revenue of the UHF independents actually rises to 151 percent of its without-cable level.

Reasons for this differential impact are also clear. With cable, UHF stations are on an equal footing with VHF stations. It does not matter whether the cable subscriber has a UHF receiver, or a UHF antenna, or lives where UHF reception is poor. He gets UHF stations with the same click-stop tuning as VHF stations. Thus, the audience gain from achieving technical parity with VHF tends to offset, and in some cases more than offsets, the loss from audience fragmentation.

Why, though, are network affiliated UHF stations harmed, while independent UHFs are helped? One reason is that network UHFs are mostly found in smaller markets than are independent UHFs (see Table 6.2), and smaller markets are generally harder hit by cable growth. Another reason is that the principal competition of independent UHFs is VHF stations, while many UHF network stations compete with one or two other UHFs (see Table 6.3). Independents thus have more to gain than network stations from achieving technical parity with VHF stations on the cable.

Again, the discussion above reflects only the effects of cable on local audience. In the model, distant audience exactly equals loss in local audience. Distant audience has some value, tending to offset some of the revenue losses discussed.

How big is the offset? We know from Chapter IV that distant audience seems to be less valuable than local audience. In Table 4.5, audience outside the area of dominant influence (ADI) is estimated to be worth \$26.48 per year, compared to \$41.78 for audience within the ADI. On this ground, then, distant audience is worth about two thirds as much as local audience.





We also know from Chapter IV, because of the curved relationships between audience and revenue, that additional audience is worth less to large stations than to small ones. Without knowing exactly which stations will be carried into which distant markets, it is impossible to be precise about the magnitude of the effect. It seems likely, though, that stations carried as distant signals will tend to be fairly large ones with strong programming, certainly larger on average than the local stations whose audience they capture. A reasonable guess is that the curvature effect reduces the value of distant audience by a further 25 percent.

The combined effect of curvature and distance is then to make distant audience worth about half as much as local audience ( $.67 \times .75 = .50$ ). The net overall revenue loss due to cable is then 9 percent -- half of the 18 percent loss in revenue based on local audience is gained back by stations carried as distant signals.

If, as seems likely, distant signals are taken largely from larger markets, the differential impact of cable in large and small markets, apparent in the tables, is accentuated. Large market stations, which lose the least in terms of local audience, stand to gain the most in terms of distant audience.

#### Profit Impact

Table 6.6 translates the revenue impact shown in Table 6.5 into impact on profit, using very simple assumptions. Each station's revenue is assumed to change by the factor given in Table 6.5 for that type of station and market. For example, revenue for each network VHF station in a Type I market is reduced to 89 percent of its 1968 level. Expenses are assumed to unchanged. This latter assumption is clearly unrealistic. Stations will certainly react to reduced revenue by cutting costs. Thus, Table 6.6 figures are definitely conservative, overstating the profit impact of ultimate cable penetration.

The general pattern shown in Table 6.6 is probably quite realistic, however. VHF network affiliates in large markets generally have



Table 6.6

PROFIT IMPACT IN A 1960'S ENVIRONMENT BY TYPE OF MARKET

Type of Station <sup>a</sup>	Type of Market <sup>a</sup>									
	I	II	III	IV	V	VI	VII	VIII	IX	All
	Actual Percent Profitable <sup>b</sup>									
NV	100	95	100	83	100	100	c	86	88	89
NU	c	c	c	c	25	63	79	c	c	62
IV	67	69	c	c	c	c	c	c	c	68
IU	20	0	5	c	c	c	c	0	c	4
All	70	73	69	83	69	75	73	81	88	77
	Percent Profitable With Ultimate Cable <sup>d</sup>									
NV	100	85	88	50	63	63	c	4	0	46
NU	c	c	c	c	67	75	8	c	c	38
IV	56	54	c	c	c	c	c	c	c	55
IU	16	18	20	c	c	c	c	0	c	20
All	74	67	66	53	59	71	8	4	0	43

Notes:

<sup>a</sup>See Table 6.1 for definitions.

<sup>b</sup>Based on financial reports for 1968.

<sup>c</sup>Classifications with fewer than five stations are not reported in detail but are included in totals.

<sup>d</sup>Calculated as percent that would have been profitable in 1968 if revenue were changed by factors shown in Table 6.5 and expenses were unchanged. Reflects the effect on local audience only; including revenue due to distant audience would tend to increase percentages of profitable stations.



sufficient profit cushion so that most could absorb projected revenue losses and still remain profitable. Stations in smaller markets typically have smaller profit margins, and suffer larger revenue losses due to cable. Loss of revenue would make many of them unprofitable, at least unless expenses were drastically reduced. This is particularly true of stations in markets with three UHF stations, type VII, and in one- and two-station markets, types VIII and IX. It seems likely that many stations in smaller markets would be forced either to go off the air or to continue operation only as satellites of stations in larger markets.

UHF independents have their revenue increased substantially by cable, but their profit position remains quite bleak. Because most have losses that are too large to be offset by projected revenue increases, only 20 percent would be profitable even with the help of cable.

#### Impact of Cable in a 1970's Environment

For the second case to be investigated, UHF set penetration is assumed to reach 100 percent, but UHF handicap due to the other factors mentioned remains at the 1968 level.

Results for this case are shown in Table 6.7 by market rank and in Table 6.8 by type of market. The differential impact of cable across markets is the same as in the 1960's environment: stations in smaller markets are hurt the most (or helped the least) by cable.

The differential impact by type of station is changed, however. When all homes have UHF receivers, the advantage to UHF stations of carriage by cable is reduced. Thus in my 1970's environment, cable harms network UHFs slightly more than in the 1960's environment, reducing their revenue to 86 percent of its non-cable level. Similarly, independent UHFs are helped less by cable, with revenue rising to 119 percent of the non-cable level.

I should point out, though, that even UHF network stations are as well off in the 1970's environment with cable as in the 1960's



Table 6.7

IMPACT OF CABLE IN A 1970's ENVIRONMENT BY MARKET RANK

Type of Station <sup>a</sup>	Market Rank				
	1-50	51-100	101-150	151-200	1-200
	<u>Audience<sup>b</sup></u>				
NV	83	79	76	64	81
NU	109	86	91	c	89
IV	87	c	c	c	86
IU	120	117	c	c	119
All	85	80	77	64	82
	<u>Revenue<sup>b</sup></u>				
NV	83	76	69	45	80
NU	112	82	85	c	86
IV	89	c	c	c	89
IU	120	120	c	c	119
All	85	77	70	44	82
	<u>Local Programming Expenditure<sup>b</sup></u>				
NV	83	80	77	68	81
NU	109	86	91	c	89
IV	89	c	c	c	89
IU	114	107	c	c	84
All	87	81	79	68	84

Notes:

<sup>a</sup>See Table 6.1 for definitions.

<sup>b</sup>All figures are value in presence of cable expressed as percentage of value in absence of cable. All figures reflect effect on local audience only. Distant audience increases values in some cases; see text.

<sup>c</sup>Classifications with fewer than five stations are not reported in detail, but are included in totals.





Table 6.8

IMPACT OF CABLE IN A 1970's ENVIRONMENT BY TYPE OF MARKET

Type of Station <sup>a</sup>	Type of Market <sup>a</sup>									All
	I	II	III	IV	V	VI	VII	VIII	IX	
	<u>Audience<sup>b</sup></u>									
NV	87	84	82	84	78	72	c	66	52	81
NU	c	c	c	c	110	97	83	c	c	89
IV	88	84	c	c	c	c	c	c	c	86
IU	124	124	120	c	c	c	c	96	c	119
All	88	85	84	84	84	84	83	66	52	82
	<u>Revenue<sup>b</sup></u>									
NV	89	84	82	81	75	67	c	56	35	80
NU	c	c	c	c	113	96	80	c	c	86
IV	91	85	c	c	c	c	c	c	c	89
IU	125	125	120	c	c	c	c	96	c	119
All	90	85	86	81	81	79	80	57	35	82
	<u>Local Programming Expenditure<sup>b</sup></u>									
NV	88	84	82	84	78	73	c	67	56	81
NU	c	c	c	c	109	97	84	c	c	89
IV	91	87	c	c	c	c	c	c	c	89
IU	114	115	116	c	c	c	c	98	c	114
All	90	86	87	84	85	84	84	69	56	84

Notes:

<sup>a</sup>See Table 6.1 for definitions.

<sup>b</sup>All figures are value in presence of cable expressed as percentage of value in absence of cable. All figures reflect effect on local audience only. Distant audience increases values in some cases; see text.

<sup>c</sup>Classifications with fewer than five stations are not reported in detail, but are included in totals.



environment without cable. The combined effect of cable and 100 percent UHF set penetration is to multiply UHF network stations revenue by .99.<sup>1</sup> The loss due to cable is almost exactly offset by the gain due to increased UHF set penetration.

#### Impact of Cable in a 1980's Environment

Tables 6.9 and 6.10 show results when the UHF handicap is assumed to have been overcome by technological advance. Differential impact across markets is of course unchanged from the two previous cases.

In the 1980's environment, UHF stations have technical parity with VHF stations in over-the-air broadcast. Carriage on the cable, then, does nothing to improve UHF position relative to VHF, so one expects cable to harm UHF and VHF stations equally. This expectation is generally confirmed by the results. The minor differences in impact are due to differences in size and distribution of UHF and VHF stations, not to the UHF/VHF difference itself.

Even though UHF stations are harmed by cable in a 1980's environment, they are very much better off than in a 1960's environment with no cable. The impact of cable is more than offset by 100 percent UHF set penetration and elimination of the UHF handicap. The combined effect is to multiply UHF network stations' revenue by 1.16, and UHF independents' revenue by 2.38.

#### CONCLUSION

Concern over the potential impact of cable growth on television broadcasting appears to be misdirected on several counts.

First, the overall impact is perhaps not large enough to justify any great concern. Overall revenue loss due to cable is estimated to be about 9 percent. This loss is small enough so that it would be wiped out by one year's normal revenue growth.

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<sup>1</sup>For UHF independents, the corresponding figure is a whopping 1.72.



Table 6.9

IMPACT OF CABLE IN A 1980's ENVIRONMENT BY MARKET RANK

Type of Station <sup>a</sup>	Market Rank				
	1-50	51-100	101-150	151-200	1-200
<u>Audience<sup>b</sup></u>					
NV	84	80	76	65	82
NU	83	81	83	c	82
IV	87	c	c	c	87
IU	84	83	c	c	83
All	84	80	77	64	82
<u>Revenue<sup>b</sup></u>					
NV	84	77	69	45	81
NU	81	77	76	c	77
IV	89	c	c	c	89
IU	83	80	c	c	81
All	85	77	70	44	81
<u>Local Programming Expenditure<sup>b</sup></u>					
NV	84	81	77	68	82
NU	83	82	84	c	82
IV	90	c	c	c	90
IU	88	93	c	c	88
All	85	81	79	68	83

Notes:

<sup>a</sup>See Table 6.1 for definitions.

<sup>b</sup>All figures are value in presence of cable expressed as percentage of value in absence of cable. All figures reflect effect on local audience only. Distant audience increases values in some cases; see text.

<sup>c</sup>Classifications with fewer than five stations are not reported in detail, but are included in totals.





Table 6.10

IMPACT OF CABLE IN A 1980's ENVIRONMENT BY TYPE OF MARKET

Type of Station <sup>a</sup>	Type of Market									
	I	II	III	IV	V	VI	VII	VIII	IX	All
<u>Audience<sup>b</sup></u>										
NV	88	85	83	84	84	84	c	66	66	82
NU	c	c	c	c	84	84	83	c	c	82
IV	88	85	c	c	c	c	c	c	c	87
IU	88	85	84	c	c	c	c	71	c	83
All	88	85	83	84	84	84	83	66	52	82
<u>Revenue<sup>b</sup></u>										
NV	89	84	83	81	81	79	c	57	35	81
NU	c	c	c	c	81	79	80	c	c	77
IV	91	86	c	c	c	c	c	c	c	89
IU	87	84	84	c	c	c	c	70	c	83
All	90	85	83	81	81	79	80	57	35	81
<u>Local Programming Expenditure<sup>b</sup></u>										
NV	88	85	83	84	84	84	c	67	56	82
NU	c	c	c	c	84	84	84	c	c	82
IV	91	87	c	c	c	c	c	c	c	90
IU	93	91	87	c	c	c	c	84	c	88
All	89	85	84	84	84	84	84	68	56	83

Notes:

<sup>a</sup>See Table 6.1 for definitions.

<sup>b</sup>All figures are value in presence of cable expressed as percentage of value in absence of cable. All figures reflect effect on local audience only. Distant audience increases values in some cases; see text.

<sup>c</sup>Classifications with fewer than five stations are not reported in detail, but are included in totals.



Second, concern currently centers on protecting stations in the larger markets. These are, however, the stations that will be least affected by cable growth. Any serious attempt to protect television stations from the impact of cable should deal with the problem in the smaller markets, where the impact will be much more severe.

Third, UHF stations, and particularly UHF independents, are the objects of particular concern. But these are the stations that need protection least of all. Cable growth will harm UHF network stations very little, and help UHF independents substantially.







THE ECONOMICS OF THE TV - CATV INTERFACE

Staff Report to  
The Federal Communications Commission  
Washington D.C.

PREPARED BY:  
Research Branch,  
Broadcast Bureau  
July 15 1970





# The Economics of The TV-CATV Interface

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# The Economics of the TV-CATV Interface

## Summary

1. The Commission has requested comments on proposed rules under which CATV would be permitted to expand into the central cities of major TV markets and carry distant stations. Two different approaches have been proposed: (1) that CATVs obtain "retransmission permission" from the distant station (which in turn must obtain copyright clearance);<sup>1/</sup> and (2) that CATVs substitute local station commercials for those on the distant signals they carry.<sup>2/</sup> Alternate proposals were also invited.<sup>3/</sup> During its recent deliberations on CATV, which led to the June 24, 1970 Second Further Notice of Proposed Rulemaking, the Commission had the benefit of some staff studies. This report, in preliminary form, was one of these; it deals with the problem of CATV's possible impact on the television broadcast system. The Commission believes that the contents of the report, prepared by the Research Branch of its Broadcast Bureau, may assist the interested parties in preparing comments; it is therefore being made available to the public.

2. The question of impact on local stations is not a simple one. There is no answer to the general question of how much impact will CATV cause. It depends on whether the station is a VHF or UHF, a network affiliate or independent, the number of competing stations, its current audience market share, the assumed CATV penetration limit in its market and other factors. A formula is given to estimate impact on specific stations, but included as one variable (M) is the expected audience share of the station in CATV homes, when CATV carries four distant independent stations.<sup>4/</sup> Based on studying the CATV viewing in San Diego subscriber homes and other analyses, estimates are made for this variable for 3-station and 4-station markets. Examples are calculated, for a few markets to clarify the methodology.

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<sup>1/</sup> Further Notice of Proposed Rule Making in Doclet 18397 FCC 69-515 22 FCC 2nd 589 (1969).

<sup>2/</sup> Second Further Notice of Proposed Rule Making in Docket 18397-A FCC 70-676, June 24, 1970.

<sup>3/</sup> Ibid; para. 18.

<sup>4/</sup> The present proposal limits carriage of commercial distant stations to four independents.



3. It was found that most of the VHF stations in the top 100 markets have profit margins which should deter reduced service because of the estimated impact of CATV. However, most of the UHF stations are now operating marginally and could be seriously affected by any significant impact. CATV has two contrary effects on UHF viewing in subscriber homes. First, it negates the UHF handicap (vis-a-vis VHF) due to tuner and antenna problems. Secondly, it fractionalizes the audience by carriage of distant stations. In most cases, it is found, there is a net reduction in audience. (Having the CATV substitute local stations' commercials for those of the distant signals carried, theoretically can solve the problem of impact.) In commenting on whether specific stations should receive priority under the proposed "commercial substitution" plan, measures of impact developed in this report may prove helpful. ?

4. The problem of program suppliers and other copyright owners are considered herein (Part II) because of its importance in any CATV plan which is designed to be compatible with the existing TV system. While basic data on programming expenses per TV home is presented as an aid, Congress, of course, is the sole arbiter of this matter.

Next paragraph is No. 9





Off the air vs. cable distribution systems.

9. The present "off-the-air" television system consists of about 870 television stations, of which about 185 are non-commercial stations. The 685 commercial television stations are located in 275 areas, called television markets, each having from one to 11 commercial stations on the air. The reception areas of these stations are such that practically every U. S. household is within reach of at least one commercial TV station. Households in large television markets such as Los Angeles, New York and Chicago are in the reception area of 11, 8 and 7 commercial stations, respectively. These commercial TV stations may be regarded as the "off-the-air" distribution system for delivering to homes the available television programs-network, syndicated or locally originated. There is, of course, no direct charge for receiving the off-the-air broadcasts in the home.

10. CATV is another distribution system for delivering television programs to the homes. The programs are delivered by cable strung along poles (like telephone or electric wires) or underground, tapped into those homes that subscribe. The fee averages about \$5 per month to connect to the cable. CATV subscriptions are saleable in many markets mainly because (a) cable distribution results in clearer pictures than off-the-air reception and (b) cable television offers more stations than can be received off-the-air, by carrying stations from distant TV markets. For the television public, it would be ideal if CATV and off-the-air TV could exist side by side, permitting those that wish to subscribe to pay for the added CATV service, and permitting all others to continue all the free off-the-air service that the market supports. This can happen when CATV carries only the local market stations, as it now does in New York City where large buildings cause off-the-air reception problems.

11. However, most cities do not have the off-the-air reception problems of New York and do not have a great number of local stations (New York City has 8 commercial and 3 educational stations on the air). Therefore, in most markets CATV must offer more than just the local stations, if it is to obtain sufficient subscribers to exist at all. When it does this, it potentially conflicts with the off-the-air television system. It does so in two ways. First, by bringing distant stations into subscriber homes, it fractionalizes the CATV audience which would otherwise only be able to view the local television stations. Since the local stations "sell" their audience to advertisers, this reduces their revenue and could jeopardize the local station's ability to serve the community. Secondly, by carrying distant station programs which are normally syndicated on a market by market basis, CATV may interfere with the current program distribution process with possible adverse effects on program suppliers' ability to perform. The principal purpose of this analysis is to determine



the impact that CATV (carrying distant stations) has on TV stations and networks (Part I) and on the program suppliers (Part II).

Part I - Impact of CATVs Which Carry Distant TV Stations  
On the Audience and Revenues of Television Stations and  
Networks

TV Allocation Plan and the Present Television Markets

12. In April 1952 in its Sixth Report and Order on television allocations, the Commission set fixed minimums for television station separations and assigned VHF and UHF channels to the communities in the United States. This assignment plan was based on some major considerations, including (a) providing at least one or possibly two stations to each community; (b) insuring an equitable distribution among the states and (c) giving weight to the population of the central city. The UHF and VHF assignments were intermixed in this plan, with the larger metropolitan areas being assigned more VHF than the smaller communities. A total of 1,274 communities were assigned television channels; 889 of these were assigned only one channel and 385, two or more channels.

13. The economics of television advertising actually determined the usage of the commercial channel assignments. Because full power was permitted, stations assigned to suburban communities of metropolitan areas were able to reach essentially the same audience as those stations assigned to the central city of the metro area. Thus, advertisers considered them to be in the same "television market." The Commission recognizing that these stations would be received in the same television homes as the central city stations, often permitted them to use the same transmitting tower for better reception by the public. So that a Newark, New Jersey station became part of the New York City television market and a Wilmington, Delaware station became part of the Philadelphia television market. The commercial television stations currently on the air are located in 275 television markets.

14. In its allocation plan, the Commission assigned more channels to those communities with the greater population. 5/ This was

5/ As summarized in par. 68 of the 1952 Sixth Report and Order:

<u>Population of Central City</u>	<u>Number of channels (Includes noncommercial)</u>
1,000,000 and above	6 to 10
250,000 - 1,000,000	4 to 6
50,000 - 250,000	2 to 4
Under - 50,000	1 to 2



justified because it obtained maximum usage of the limited number of available channels by serving the greatest number of people. It also coincided with the practical economics of advertising, thus permitting many assignments to be rapidly activated. But the reasoning behind the allocation plan did not necessarily imply that a family living in New York or Los Angeles deserved ten services whereas a family living in Altoona or Bakersfield was entitled to only 3 services. Table 1 shows the current allocations and usage of TV channels in those major 100 markets specified in the proposed CATV rules.<sup>6/</sup>

15. The 1952 allocation plan intermixed the UHF and VHF channels. This provided for the most efficient usage of available channels, assuming that UHF stations could develop into the equivalent of VHF stations. It soon became clear that in intermixed markets, UHF stations could not compete with the VHF stations. Many UHF stations went off the air. After considering several devices to get UHF back on the track (including "deintermixture" and the moving of all television assignments to the UHF band), the Commission and the Congress decided to require that all future receivers be equipped for UHF as well as VHF. The All-Channel Receiver Law was effective July 1962 and the Commission ruled that after April 30, 1964, all television sets shipped in interstate commerce must include UHF. Since then, there has been a steady increase in the percentage of homes in the United States having sets that include UHF tuners: mid-year 1964 - 15%; 1965 - 23%; 1966 - 35%; 1967 - 43%; 1968 - 52%; 1969 - 60%; 1970 - 68%. <sup>7/</sup> By 1973, 90% of the television homes are expected to be equipped for UHF. As a result, interest in UHF stations revived and the number of UHF commercial stations on the air gradually increased: January 1964 - 86; January 1965 - 91; January 1966 - 100; January 1967 - 116; January 1968 - 136; January 1969 - 165; January 1970 - 183.

#### The UHF Handicaps

16. Theoretically, a UHF broadcast is technically as good as VHF of the same signal strength. Practically, UHF stations suffer from three handicaps vis-a-vis VHF stations. The first obvious handicap is the fact that not all TV sets in use have UHF capability. It will probably be 1973 before 90% of the U. S. TV homes have at least one set with UHF capabilities. Although UHF set saturation varies considerably by TV market, there are published measures of this handicap. <sup>8/</sup>

- <sup>6/</sup> These are the top 100 markets, ranked by net weekly circulation by ARB for 1967.
- <sup>7/</sup> Estimates based on bench mark Census surveys and data from audience research services.
- <sup>8/</sup> Current estimates by ARB and Nielsen and bench mark sample surveys by U. S. Census Bureau.





Table 1

TV CHANNEL ALLOCATION AND USAGE - TOP 100 MARKETS AS OF MAY 31, 1970

1969 Rank (1969)	MARKET	Channel				NON-QUOTED				Available Channels	Channels Applied for	Auth. Stns. Not on the air	Channels Reserved	Stations on the air	Auth. Stns. Not on the air	Channels Applied for	Available Channels
		Channels Allocated	Stations on the air	Auth. Stns. Not on the air	Channels Applied for	Available Channels	Channels Reserved	Stations on the air	Auth. Stns. Not on the air								
1	New York (Linden, New Brunswick, Newark & Peterson, N.J.)	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
2	Los Angeles (Carson, San Bernardino, Riverside, Fontana & Glendale)	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
3	Chicago (Aurora, Joliet, Gary & Hammond, Ind.)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
4	Philadelphia (Burlington, N. J. & Wilmington, Del.)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5	Boston	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
6	Detroit (Mt. Clemens)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
7	San Francisco-Oakland	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
8	Cleveland (Lorain)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
9	Washington	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
10	Pittsburgh (Greensburg)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
11	Baltimore	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
12	St. Louis	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
13	Hartford-New Haven-New Britain (Waterbury)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
14	Providence (New Bedford, Mass.)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
15	Dallas-Fort Worth (Richardson)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
16	Cincinnati (Newport, Ky.)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
17	San Diego (San Diego)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
18	Indianapolis (Bloomington)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
19	Minneapolis	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
20	Vienna (St. Louis)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
21	Buffalo	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
22	Seattle-Tacoma	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
23	Kansas City, Mo.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
24	Memphis	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
25	Sacramento-Sanokeon	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
26	San Antonio (Galveston, Rosenberg)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
27	San Antonio (Springfield)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
28	Columbus, Ohio	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
29	San Francisco (San Francisco)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
30	San Francisco (San Francisco)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
31	San Francisco (San Francisco)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
32	San Francisco (San Francisco)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
33	San Francisco (San Francisco)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
34	San Francisco (San Francisco)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
35	San Francisco (San Francisco)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3





Table 1 (continued)

TV CHANNEL ALLOCATION AND USAGE - TOP 100 MARKETS AS OF May 31, 1970  
(CONTINUED)

TV CHANNEL ALLOCATION AND USAGE - TOP 100 MARKETS (CONTINUED)													
1967 RANK BY TVAC	MARKET	CONVENTIONAL										NON-CONVENTIONAL	
		Channels Allocated	Stations of the air	Auth. Stns. Not on the air	Channels Applied for	Available Channels	Channels Reserved	Stations on the air	Auth. Stns. Not on the air	Channels Applied for	Available Channels		
36	Portland, Ore.	U 1	U	U	U	U	U	U	U	U	U	U	U
37	Wheeling-Steubenville	U 1	U	U	U	U	U	U	U	U	U	U	U
38	Grand Rapids-Kalamazoo (Battle Creek)	U 2	U	U	U	U	U	U	U	U	U	U	U
39	Denver (Boulder)	U 3	U	U	U	U	U	U	U	U	U	U	U
40	Birmingham	U 3	U	U	U	U	U	U	U	U	U	U	U
41	Mobile	U 3	U	U	U	U	U	U	U	U	U	U	U
42	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
43	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
44	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
45	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
46	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
47	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
48	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
49	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
50	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
51	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
52	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
53	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
54	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
55	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
56	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
57	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
58	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
59	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
60	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
61	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
62	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
63	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
64	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
65	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
66	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
67	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
68	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
69	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U
70	Albany-Schenectady-Troy (Amsterdam)	U 3	U	U	U	U	U	U	U	U	U	U	U

Footnotes on last page of table



Table 1 (continued)

TV CHANNEL ALLOCATION AND USAGE - TOP 100 MARKETS AS OF MAY 31, 1970  
(Continued)

1967 Rank (NWC)	MARKET	COMMERCIAL					NON-COMMERCIAL					
		Channels Allocated	Stations on the air	Auth. Stns. Not on the air	Channels Applied for	Available Channels	Channels Reserved	Stations on the air	Auth. Stns. Not on the air	Channels Applied for	Available Channels	
71	Little Rock	1	1	1	1	1	1	1	1	1	1	
72	Cambridge-Springfield (Danville, Urbana, Jacksonville)	1	1	1	1	1	1	1	1	1	1	
73	Mobile, Ala.-Pensacola, Fla.	3	3	1	1	3	3	3	1	1	1	
74	Cedar Rapids - Waterloo	3	3	1	1	3	3	3	1	1	1	
75	Jacksonville	3	3	1	1	3	3	3	1	1	1	
76	Spokane	3	3	1	1	3	3	3	1	1	1	
77	Wichita	3	3	1	1	3	3	3	1	1	1	
78	Des Moines (Ames)	3	3	1	1	3	3	3	1	1	1	
79	Wichita, Kan.	3	3	1	1	3	3	3	1	1	1	
80	Cape Girardeau, Mo. -Paducah, Ky., Harrisburg, Ill.	3	3	1	1	3	3	3	1	1	1	
81	Chattanooga, Ga.	2	2	1	1	2	2	2	1	1	1	
82	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
83	San Antonio, S. C.	2	2	1	1	2	2	2	1	1	1	
84	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
85	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
86	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
87	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
88	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
89	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
90	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
91	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
92	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
93	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
94	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
95	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
96	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
97	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
98	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
99	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
100	San Antonio, Tex.	2	2	1	1	2	2	2	1	1	1	
Subtotal - Top 100 Markets		157	157	62	58	7	22	80	21	39	3	31
Subtotal - 51 Markets		157	157	62	58	7	22	80	21	39	3	31
Total, 100 Markets		157	157	62	58	7	22	80	21	39	3	31

1/ Channels 11 and 31-Commercial channels used by ETV, shown here under non-commercial only.

2/ Channel 12-Commercial Channel used by ETV, shown here under non-commercial only.

3/ Channel 23-Commercial Channel used by ETV, shown here under non-commercial only.

4/ Channel 23-Commercial Channel used by ETV, shown here under non-commercial only.

5/ Channel 17-Commercial Channel used by ETV, shown here under non-commercial only.

6/ WJLA-Channel 10-Commercial Channel used by ETV, shown here under non-commercial only.

7/ Channel 23-Commercial Channel used by ETV, shown here under non-commercial only.

8/ WJLA-Channel 23-Commercial Channel used by ETV, shown here under non-commercial only.



17. The second handicap results from tuner disadvantages in those TV homes which have all-channel sets. Practically all these sets now in use have a separate continuous dial for tuning UHF stations but a simple "click" switch for tuning VHF stations. There is an apparent reluctance to use the UHF tuner. On January 30, 1970, the Commission adopted a rule which requires equivalent tuner capabilities after a specific date. 9/ At the normal rate of set replacement it would take at least ten years from the starting date for essentially all TV homes to have an equivalent tuner. 10/

18. The third handicap results from the fact that VHF signals reach a greater distance than UHF. This may be overcome when the UHF station operates with maximum power. Because this is expensive, relatively few UHF stations do so operate. Therefore, many TV homes outside the metropolitan area usually need UHF roof antennas even though they may receive the VHF stations with the antenna built into the set. There seems to be some reluctance to install a UHF roof antenna.

19. An attempt has been made to quantify the UHF handicaps due to tuner and antenna disadvantages in terms of loss of audience in all-channel TV homes, and this analysis is attached as Appendix 1. This was done by comparing the actual average audience of UHF stations, with that of VHF stations doing the same programming, under the same conditions in comparable markets. Because of variations between markets in popularity of specific program services (e.g. CBS programs) and because of the limitations in using sample survey diaries, the results can only be considered as an attempt at measuring the UHF handicap. These results are summarized in Table 2.

Table 2

UHF Handicap in Intermixed Markets Among Audience with All-Channel Sets  
( % of expected audience lost because station is a UHF rather than a VHF)

	<u>Metro Area</u>	<u>Dominant Area 11/</u>	<u>Total Market 12/</u>
Network affiliate	16	27	32

- 9/ On June 24, 1970 the Commission revised the tuner comparability rule to provide the following compliance schedule: By July 1, 1971, 10% of all models; July 1, 1972, 40% of all models; July 1, 1973, 70% of all models; July 1, 1974, 100% of all models.
- 10/ Based on experience of all-channel set replacements.
- 11/ The counties in which most of the viewing are to this market's stations.
- 12/ The total market handicap substantially exceeds the other handicaps principally because of reception problems.





20. The network affiliate's handicap increases rapidly outside its metropolitan area, because similar network signals from neighboring market stations intrude and compete for the UHF affiliate's audience. As time goes on, no doubt many of these UHF affiliates will increase their power and substantially reduce the large handicap outside the metropolitan area.

21. The importance of measuring the UHF handicap for this analysis on CATV lies in the fact that in CATV homes UHF and VHF stations are carried on the same VHF tuner and also weak signal strength is not a problem. Essentially, therefore, there is no UHF handicap in CATV homes. 13/ Where projecting new or proposed UHF station operations, it is recommended that a current audience handicap be assigned of approximately those values given in Table 2. It is recognized, however, that the handicap in station revenues is even greater at present than the indicated audience handicap, since there is a reluctance by advertisers to use a small station in a market even at a competitive price per thousand audience. Specifically, the revenues of the UHF network affiliates studied were 45% - 50% below what would be expected if these were VHF stations in the same markets. 14/

Does CATV increase total viewing?

22. In a subsequent section of this report, (para. 29) a methodology is introduced for calculating CATV's impact on local station audience. The concept of a station's share of total market audience is used rather than the station's actual audience size or audience rating (% of total TV homes viewing the station). Audience shares are used so that the question of CATV's possibly increasing total viewing may be independently considered. Audience surveys which compare viewing in CATV homes with that in non-CATV homes in the same market, consistently show a higher level of total viewing by CATV homes. Should CATV get the credit for this higher level of viewing or is this simply a reflection of the fact

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13/ UHF stations on the cable are necessarily carried on a different channel number.

14/ Considering the fact that UHF is less than 100% saturation and the huge revenue handicap the UHF stations have, one would expect that UHF independent stations in intermixed markets would be in financial difficulty. They are. In 1968 (latest year available), only two UHF independents (out of 37), reported a profit, and both of these were Spanish language stations (See Table 8, pg.26). Even if one inflates the reported revenues for these stations to a theoretical 100% saturation, only four or five more of these stations would have shown a profit.



that heavy TV viewers tend to subscribe to CATV in greater proportion than light TV viewers?<sup>15/</sup> To the extent that CATV truly increases viewing, its impact on local station audiences (due to fractionalization) is lessened.

23. Does increasing the number of channels available increase total viewing? An examination of the metro areas of the top 100 markets indicates that there seems to be no significant difference in total off-the-air viewing with different numbers of available channels. This may be seen in Table 3.

Table 3

Average Homes Using TV as % of total TV homes in Metro area. 9 AM-Midnight,  
Top 100 Markets; ARB Feb-Mar. 1970

<u>Number of Stations in market</u>	<u>Number of Markets</u>	<u>% of Metro. TV homes using Television</u>	<u>Range of Percentages</u>
			30-37
2 or less	10	33.7	28-38
3	47	34.7	27-37
4	22	32.8	30-37
5	12	32.9	30-36
6	5	32.4	27-36
7 and over	4	31.8	

If off-the-air viewing shows no significant increase with added channels, one would suspect that this would hold true for cable viewing as well.

24. If CATV significantly increases total television viewing, one would expect that average viewing in a market would increase with increasing subscribers. There are five Canadian cities where there

<sup>15/</sup> There is a great variation in the amount of viewing in U.S. households. For example, the following average number of hours that households viewed television were reported by Nielsen during Jan.-Mar. 1969:

Highest Quintile -	11.6 hours per day
Second Quintile -	8.2 hours per day
Middle Quintile -	6.2 hours per day
Fourth Quintile -	4.3 hours per day
Lowest Quintile -	1.9 hours per day.



was substantial increases in CATV penetration during the 1966-1969 period, and the total average viewing is tabulated in Table 4, below.

Table 4

Total Viewing in Canadian cities with substantial penetration of CATV

<u>City</u>	Average per household per week			
	Nov. 1966 <u>Hrs/Min</u>	Nov. 1967 <u>Hrs/Min</u>	Nov. 1968 <u>Hrs/Min</u>	Nov. 1969 <u>Hrs/Min</u>
London	37:00	40:12	37:18	34:54
Sherbrooke	42:36	41:18	43:42	43:42
Vancouver	34:42	34:06	35:42	36:12
Ottawa-Hull	40:18	39:48	39:18	39:18
Kitchener	37:00	39:54	39:18	39:18

Source: Nielsen of Canada special tabulation No. 507-591.

CATV penetration data available indicates rapid CATV expansion during the period with estimates of penetration for Nov. 1969, as follows: London - 60%; Sherbrooke - 64%; Vancouver - 47%; Ottawa-Hull - 45%; Kitchener - 45%.

There appears to be no pattern of significant increases in total viewing here.

25. In El Paso County Colorado (Colorado Springs market), it was possible to survey a sample of TV homes both before and after they subscribed to CATV. The results are found in Table 5. The subscriber group (144), even before they were connected to CATV reported average viewing of 16% more ( $36 \div 31 = 1.16$ ) with a standard error of estimate of  $\pm 9$  percentage points, than the non-subscriber group. It was possible to trace only 72 families before and after being connected to CATV, mainly because cable installations were not completed as scheduled. These showed very little change in total viewing -- average all-day viewing of 41% before CATV; and of 43% after CATV was installed. However, because of the small sample in the "after" subscriber group (72 TV homes) and other factors, <sup>16/</sup>

<sup>16/</sup> An examination of the diaries indicated that even during the short time period (12 months or less) the composition of many family units, their working hours and viewing hours changed considerably. A much larger base of sample CATV subscribers would be needed for reliable results in a survey of this kind. Furthermore, the CATV in Colorado Springs (a 3-station market) carried only one distant independent station, KWCN from Denver in addition to the three Denver affiliates. This type of study should preferably be done in an area where CATV offers a greater selection of distant independents.





Table 1

AVERAGE PERCENTAGE OF SAMPLE HOMES USING TELEVISION DURING SPECIFIED TIME PERIODS  
EL PASO COUNTY, COLORADO

	TV Homes That Ordered CATV	Non-CATV Control Group Measured at Same Time
Before Being Connected to CATV (November 1968 & March 1969)		
Prime Time (6:30 - 10:00 pm)	69 (Sample-144)	60 (Sample 562)
All Day (9:00 am- Midnight)	36	31
Before Being Connected to CATV (November 1968 & March 1969) (Sub sample of 144 sample Above)		
Prime Time (6:30 - 10:00 pm)	72 (Sample- 72)	60 (Sample 562)
All Day (9:00 am- Midnight)	41 matched with those below)	31
After Being Connected to CATV (March 1970)		
Prime Time (6:30 - 10:00 pm)	74 (Sample-72)	59 (Sample-31)
All Day (9:00 am - Midnight)	43 matched with those above)	32

Source: Special surveys for Commission by Nielsen and ARB. The objective was to obtain "after" CATV connection data from the same 144 families for which "before" data was obtained. However, because some of these were not yet connected to CATV and due to other attritions, only 72 of the 144 families reported "after" data.





this result is not considered significant. It is included here as the only known attempt, to date, to measure viewing of the same households both before and after being connecting to CATV.

26. Some assumption has to be made, in order to proceed with calculations of impact. For purposes of the calculations in the remainder of this report, it is assumed that CATV does not increase total viewing; it is understood this is a conservative approach to the impact problem, and that impact will be less than that calculated, if in fact CATV does increase total viewing. It is also noted that the impact studies herein deal principally with the top 100 television markets, because the focus of the current rule making is on carriage of distant signals into those markets. It is recognized, however, that television stations in smaller markets may be even more exposed to impact from CATV. Some of the methods for study, developed in this report, can also be applied to the smaller markets.



Impact of CATV Carrying Distant Stations on the  
National Television Network

27. Since networks sell to advertisers on a national basis, their objective is to obtain a maximum national audience. In some respects CATVs help them gain this audience--i.e. by filling in difficult reception areas, and by carriage of distant affiliates when the local affiliate is preempting the network programs. On the other hand, in CATV homes, the actual audience for network programs is reduced because of the competition of distant independents. To approximate this audience loss, it is assumed that CATV audiences will behave with respect to network viewing approximately the same as the New York audiences now do. 17/ During the hours when all three networks were broadcasting in New York, the networks' share of the total viewing audience averaged 75.8% during prime time and 70.6% during the entire network day. 18/ The corresponding current network shares for the entire country are 75.4% for prime time and 65.7% for all network hours. 19/ If all TV homes in the United States were cable subscribers (and distant independents were carried equivalent to the New York independents), the current network share in prime time would be reduced from 75.4 share to 73.8 share (a 14% decrease) and in the full network day from 65.7 share to 70.6 share (a 18% decrease). If 25% of the U. S. TV homes were connected to cable, as anticipated by 1975, the average all day network audience would be in the range of 4% to 5% less than it would have been in the absence of further CATV expansion ( $18\% \times 25\% = 4.5\%$ ). 20/

28. This 4% to 5% impact on 1975 anticipated network revenues would not seem to endanger network operations in the public interest. In 1969, the three television networks and their 16 owned and operated stations grossed \$1.47 billion in revenues and reported pre-tax profits of \$226 million. 21/ Revenues doubled during the five year period 1965-1969 (which includes the TV recession year of 1967). Although no broadcast equity figure is available against which to measure the \$226 million income, current investment in tangible broadcast property of

17/ Although there are only 3 VHF independents in New York, their impact on network viewing (together with that of the N.Y. ETV VHF station) is greater than the 4 VHF independents in Los Angeles. To be conservative (maximize impact), the New York experience is used.

18/ This is only during those quarter hours when all three networks broadcast; the average all day audiences in New York divided as shown in para. 29. Source: ARB February/March 1970, Television Market Summary.

19/ This is only during those quarter hours when all three networks broadcast. Source: A.C. Nielsen's National Nielsen TV Ratings for January 26 - February 1, 1970.

20/ In markets offering adequate off-the-air service including strong independent stations, CATV penetration is expected to peak at well below 50%. (see para. 41). An estimate of 25% penetration for the entire country by 1975 seems reasonable, assuming a resolution of the current problems.

21/ For purposes of determining financial impact, the 5 TV stations in major markets owned and operated by each TV network are considered to be part of a joint network-station operation.



\$ 169 million was reported at the end of 1969. It is estimated here that network corporation revenues will continue to expand and their financial strength not threatened by the level of impact anticipated.

### Calculating Impact on Local Stations

29. Impact on audience is measured by comparing the local station's audience in the absence of CATV with its audience when CATV carries competing distant stations. To make a projection of how the audience divides in CATV homes, one obvious point of reference is the audience patterns in Los Angeles and New York where similar station competition exists for over-the-air audience. In Los Angeles, where the 3 network affiliates have strong competition, basically from 4 VHF independents, the average 9 AM-Midnight audience divides as follows: 3 network affiliates - 71%; independents - 29%. In New York the competition to network affiliates, which includes 3 VHF independents, does even better and the average 9 AM-Midnight audience divides as follows: 3 network affiliates - 63%; independents - 37%. <sup>22/</sup> When New York or Los Angeles independents are carried by CATV in 3-station markets (where each station is a strongly programed network affiliate), these independents should do nearly as well as in their home markets. The three local stations do have an audience advantage as only they have local news programs and the audience carry over from these programs.

### Impact in Major 3-Station Markets

30. A 3-station market is considered a major one if it has three full network affiliates, with the total revenues high enough to support the most expensive syndicated programming in non-network time. One such market, which also has sufficient CATV homes to study (55,000) is San Diego (ranked 50th <sup>23/</sup>) which has 3 VHF affiliates. <sup>24/</sup> The Commission ordered two special tabulations of San Diego CATV audiences, one for Feb-March 1969 (103 CATV diaries) and one for Feb-March 1970 (175 CATV diaries); these tabulations, together with those for non-CATV control groups are given in Appendix 2. Totalling these two samples and making necessary adjustments <sup>25/</sup> yields the following results--which may be used as a model for measuring impact in a 3-VHF market when CATVs carry four Los Angeles independents or their equivalent:

<sup>22/</sup> Source, ARB Feb-March 1970 market surveys. Reported ADI shares of Homes Using Television (which normally totals to about 103% because of second sets tuned to different channels), adjusted to 100% base.

<sup>23/</sup> Market rankings as used throughout this report refer to ARB's net weekly circulation ranking in 1967; these are the rankings used currently in "top 100" CATV considerations.

<sup>24/</sup> During the study periods, a relatively weak UHF independent (2% share) was also on the air.

<sup>25/</sup> See Appendix 2 for adjustments and reasons for them. The survey results showed that the 3 VHF affiliates obtained an 85.5% share in non-CATV homes, but only 68.1% in CATV homes. CATV's impact can then be said to cause a 20% reduction in CATV home audience. Since 14% of San Diego's ADI total homes are subscribers, the current impact on the local VHF stations is 3% loss in audience.







3 local affiliates 74%  
4 distant independents 26%

This seems to be consistent with the expected results from analyzing the Los Angeles market itself (para. 29).

31. These San Diego "model" CATV shares may be used to calculate CATV's impact on stations in top 100 3-VHF markets such as Des Moines (ranked 78th), Richmond (66th), and Albany-Schenectady-Troy (43rd) where the 3 local stations are reported to have the following shares of the average market audience: Des Moines - 85%; Richmond - 89%; Albany-Schenectady-Troy - 92%. <sup>26/</sup> When each of these share figures are divided into the CATV model share of 74% (for 3 network affiliates) the following estimates of audience reductions in CATV homes are obtained:

Des Moines - 13% reduction (i.e. 1 - 74/85)  
Richmond - 17% reduction (i.e. 1 - 74/89)  
Albany-Schenectady-Troy - 20% reduction (i.e. 1 - 74/92)

These are the expected audience impacts in CATV homes. To estimate total station impact, these reductions are multiplied by the expected CATV penetration percentage. For example, when 25% of the homes in the Albany-Schenectady-Troy ADI become subscribers to CATVs carrying four distant independents, the average audience for the three local stations is estimated to be 5% less (25% x 20%) than it would have been in the absence of distant station competition on the cable.

32. The general formula for estimating impact on local stations is as follows:

$$D = (1 - \frac{MI}{S}) P$$

Where D is the expected decrease in station audience (as a percentage of its expected audience in the absence of CATV). M is the "model" CATV share for the type market under consideration; e.g., M = 74% total share for 3 affiliates, using the San Diego CATV model for 3-station markets. I is the factor reflecting anticipated increased total viewing due to CATVs' added channels. If it is assumed that CATV increases total viewing by 5%, then I = 1.05. Throughout this study, the conservative view is taken that there

<sup>26/</sup> Source: ARB, Feb-March 1970. Reported shares of ADI homes using television (HUT) which total to approximately 103%, because of second set viewing of different channels, have been adjusted to 100%. In these markets, the viewing not attributed to the 3 local stations is accounted for by viewing in the ADI of stations from adjoining markets. To the extent that CATV homes will continue to view these adjoining stations the percentage of audience reductions (due to CATV) calculated herein will be higher.



is no increase, i.e.  $I = 1$ . (para. 26).  $S$  is the audience share of the station, expected in the absence of CATV; and  $P$  is the degree of CATV penetration expressed as a percentage of total ADI homes that subscribe to CATV carrying distant stations.

33. The San Diego 3-station CATV model shares may be used for impact estimates in intermixed markets. As an example, impact is calculated, at the 25% and 50% CATV penetration levels for all three stations in Binghamton, N. Y. This market has one VHF station, WNBF, a CBS affiliate, and two UHF affiliates, WBJA (ABC) and WINR (NBC). Using the Feb-March 1970 ARB audience shares (9 AM-Midnight), the following data are substituted in the formula:

	WNBF-VHF (CBS)	WBJA-UHF (ABC)	WINR-UHF (NBC)
$M = 1/3$ of 74 share or	24.7%	24.7%	24.7%
$I =$ No increased viewing due to CATV, assumed	1	1	1
$S =$ Since ADI is over 90% UHF-saturated, current shares are used; ARB shares of Homes Using TV adjusted to total 100%	45.6	11.6	15.5
$P =$	25% and 50%	25% and 50%	25% and 50%

with the resulting expected decrease of:

$D,$ at 25% CATV penetration	11.5%	-28.2%	-14.8%
$D,$ at 50% CATV penetration	23.0%	-50.4%	-29.7%

This means that while WNBF may expect a reduction of 11.5% in its audience (at the 25% CATV level), WBJA and WINR would expect increases of 28.2% and 14.8%, respectively. In this particular example the fractionalization of the UHF stations' audience has been more than offset by the loss of UHF handicap. 27/

27/ It might be more accurate to show slightly higher "S" values for the UHF stations' shares than those reported currently, since they will likely overcome some of their UHF handicaps. If this is done the audience increases calculated for the UHF stations would be correspondingly smaller, and the loss of audience for WNBF would be smaller. Binghamton is perhaps a poor example for illustrating the methodology, since its ADI is already 42% saturated with CATV. The change in audience found above (D), must therefore be interpreted from the current base of non-CATV homes.



### Impact in Minor 3-Station Markets

34. The "M" values based on San Diego CATV surveys (74% for local affiliates; 26% for four distant independents) should not be applied to markets where limited advertising revenues prevents the affiliates from strong programming in non-network time. One would expect in such 3-station markets, the 3 local affiliates could not achieve a 74% share in CATV homes against four strong distant independents. A survey in one such market--Bakersfield (ranked 146) where the 3 UHF affiliates combined, grossed only \$2 million in revenues and showed a combined net loss--was tabulated for CATV homes in November 1968 by ARB. 28/ The tabulations and adjustments made are given in Appendix 3. The results show that in CATV homes, the three local affiliates are estimated as obtaining a 66% share and the four Los Angeles independents a 34% share. When calculating impact in small 3-station markets, similar to Bakersfield, it would be appropriate to use these share figures as "M" values in the formula.

### Impact in 4-Station Markets

35. It would be valuable to have "M" values as CATV models for 4-station markets as well as for 3-station markets. However, CATV survey results from large metro areas where the fourth local station is a well-programmed independent are not available, because CATV was not permitted to expand into these areas. An attempt is made here to estimate roughly the values of "M", for this type of market. In a 4-station (all VHF) market, a well-operated and financially strong independent can "counter-program" the network affiliates and can obtain a 15% or higher share of the average all day audience in the absence of CATV. 29/ CATV homes in such markets would carry 3 local affiliates, the local independent and (assume) four distant independent stations. How would the average CATV audience divide in such cases? One way of looking at this is to find out just how small a share, 3 well-programmed network affiliates can be squeezed to by the fiercest independent competition. This turns out to be in the New York market where the 3 affiliates total only 63% of the average 9 AM-Midnight audience. 30/ It could be assumed that in a 4-VHF market where 4 additional independents are carried, the three local

28/ Another tabulation was made by Nielsen for CATV homes which were part of their Nov.68 and Mar.69 surveys which yielded results consistent with the ARB study.

29/ Counter-programming includes running news programs before the affiliates' regular news shows; using entertainment shows opposite network news; stripping popular rerun series in a prime time period, 5 days a week; childrens' programs opposite network afternoon soap operas. The highest shares of successful independents in Nov.1969 in 4-station markets are: Portland - 15 (Nielsen and ARB), Minneapolis-St. Paul - (Nielsen) and 14 (ARB), Phoenix - 15 (Nielsen and ARB), and Dallas-Ft. Worth - 15 (Nielsen) and 16 (ARB).

30/ New York ADI shares adjusted to total 100%; ARB March 1970.





affiliates could also be squeezed to approximately a 63% share. However, since the local affiliates do have the advantage of their local news audience and carry over therefrom, it is assumed that the affiliates' share is 65%. The remaining five independent stations including the local one would share the 35% balance. It is estimated that the strongly programed local independent (again with a local news audience and carry over) would capture an 8% share, leaving the 4 distant independents with 27%. Thus rough estimates of "M" values are established for stations in 4-station markets as follows: For three network affiliates, 65% share; and for a strongly programed independent, 8% share. It is noted that a UHF independent fourth station can also be strongly programed as measured by whether it obtains approximately an 11% (i.e. 15% less 27% UHF handicap) of the market's all-channel set audience, in the absence of CATV.

36. Using these rough "M" shares, a market impact calculation is made for the 4-VHF stations in Portland, Oregon (rank 36). The data are as follows:

		<u>3 VHF Affiliates</u>	<u>1 VHF Independent</u>
M		65	8
I	Assume no increase in total viewing	1	1
S	ARB Feb-Mar 1970; shares of Homes Using Television which normally total 103% adjusted to 100%	75.7	14.6
P		25% and 50%	25% and 50%

The resulting decrease in audience is as follows:

D,	at 25% CATV penetration	3.5%	11.3%
D,	at 50% CATV penetration	7.1%	22.6%

37. An example of a 3-VHF 1-UHF market impact calculation is given for Cincinnati (rank 16) where the UHF station is independent. The data are as follows:





3 VHF  
Affiliates

1 VHF  
Independent

65

8

M

I

Assume no increase in total viewing

1

1

S

ARB Feb-Mar 1970; since Cincinnati ADI is 83% UHF saturated, WXIX (UHF) share is adjusted from 9 to 11 share (9/.83) and the affiliates' shares adjusted accordingly. 31/

80

11

25% and  
50%

25% and  
50%

P

The resulting decrease in audience is as follows:

D,

at 25% CATV penetration

4.5%

6.8%

D,

at 50% CATV penetration

9.4%

13.6%

### Effect of Impact on Local Stations

38. By using the formula (para. 32) together with appropriate estimates of CATV Home "M" shares for the market being considered, impact on audience may be estimated for individual local stations. Size of station audience basically determines its time prices and revenues. Estimated reductions in audiences may therefore be associated with reductions in station revenues. In general it will cost no less to operate a station in spite of some reduction in audience share. 32/ Therefore the reduced revenues will be reflected in the station's profit margin. In some cases this will be a sufficient reduction to prevent the station from doing as good a public service job as it would otherwise do. In other cases, the station operations would not be affected because of a remaining high profit margin.

39. Table 6 is a summary of marginal stations in markets with three or more stations. Of the 122 markets, 81 had at least one station

31/ S is the projected share in absence of CATV. It is projected that the UHF station will have this higher share due to the increase of UHF sets from 83% to 100%. No adjustment has been made for over-coming the UHF handicap due to tuning and antenna problems. Also, since the Cincinnati UHF station went on the air recently (Aug. 1968) their ultimate share may be higher than 11%, in the absence of CATV.

32/ Although some costs, such as program purchases, may vary with audience size.



Table 6

MARGINAL TELEVISION STATIONS AND POTENTIAL NEW STATIONS IN MARKETS  
OF 3 OR MORE STATIONS BY NUMBER OF TV STATIONS IN THE MARKET, 1968

Item	Number of stations in the Market						Total Markets
	4 or more stations	3 VHF or 3 UHF stations	2 VHF and 1 VHF stations	1 VHF and 2 UHF stations	1 VHF and 2 UHF stations	1 VHF and 2 UHF stations	
Total number of markets . . . . .	45	53	17	7			122
Number of markets with a "loss" station .	37	25	14	5			81
Number of markets with all profitable stations . . . . .	8	28	3	2			41
(a) With a CP not on the air, or with a new channel applied for . . . . .	4	19	2	0			25
(b) All others . . . . .	4	9	1	2			16
(1) With allocated channels available . . . . .	4	9	1	2			16
(2) With no available channels . . . . .	0	0	0	0			0



reporting a loss in 1968. There are applicants for a new UHF channel (or permits already issued) in 25 of the 41 remaining markets (which had all profitable stations). So that it appears that marginal stations would be exposed in most of the television markets, to impact from unlimited CATV expansion.

40. Table 7 shows that while most VHF stations in the top 100 markets reported very high profitability (with respect to other industries), 5 stations reported a loss and 12 more a profit of less than 15%. Table 8 shows that most of the UHF stations are either in the red or marginal. Out of 76 UHF stations, 58 reported losses; only 7 reported pre-tax profits of over 15% of their revenues. Using measures of impact developed here, or any reasonable measures, leads to the conclusion that the performance of many UHF stations in many markets would be seriously affected (and that some may drop out) if CATV were to expand (and carry distant stations) without limit.

41. Fundamental to all impact considerations is the extent to which CATV will be successful in selling its subscriber service in the metro areas of the top 100 markets. Although many entrepreneurs are interested in obtaining franchises for CATV in these areas, not much is known about the eventual popularity of CATV in cities such as Chicago, San Francisco or Washington where, off-the-air, three affiliates and one or more strongly programed independents can generally be received with clarity. Experience in San Diego, where a relatively weak UHF station provides the only independent service 33/ shows that a 50-55% penetration is the maximum presently possible in the wired areas of that county. 34/ Since there are areas in the market that would be unprofitable to wire, peak penetration in San Diego market may be assumed to be somewhat less than 50%. One would expect that in major markets, where strongly programed independents are now receivable, the upper limit of CATV penetration would be considerably less than this. It is doubtful that CATV in the Chicago, San Francisco and Washington markets can even approach San Diego's penetration rate, if cable were to offer four additional distant independent channels as its principal attraction.

#### Commercial Substitution

42. Local stations' loss of audience, due to CATV fractionalization, is equated with loss of advertising revenues because an audience for a program is considered to be exposed to the commercials carried by that program. If commercials on distant stations carried by CATV were blanked out and the local stations' commercials substituted, the normal situation

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33/ A Spanish speaking Mexican station is also received.

34/ The saturation of 65% of homes passed by the cable which was anticipated by the San Diego CATVs at the 1967 Commission hearings was never achieved.





Table I  
NUMBER OF VHF STATIONS IN TOP 100 MARKETS BY REVENUE CLASS  
AND PROFIT MARGIN, 1968

NUMBER OF VHF STATIONS IN 1968 AND PROFIT MARGIN, 1968															
1968 Revenue Class (Thousands Dollars)	1968 Pre-Tax Profit Margin (% of Total Revenues)														
	Loss	0-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	Total
over 10,000	1			1	2	1	1	2	5	7	5	4	3		30
9,000-10,000									1	1	2	1			7
8,000-9,000									1	1	3	2	1		15
7,000-8,000		1						2	3	5	2	1		1	28
6,000-7,000					2		2	3	8	1		1			14
5,000-6,000					2	2	3	2	2	3	1		1		24
4,000-5,000					5	2	3	2	3	3					15
3,000-4,000		1	1	2	3	4	3	1	1						3
2,000-3,000				2	3	1									1
1,500-2,000															2
1,000-1,500			1												2
800-1,000															1
600-800						1									1
400-600															--
200-400	1														--
100-200															--
less than 100															--
TOTAL	5	2	4	6	14	16	13	12	23	19	13	9	5	1	142



Table 8  
NUMBER OF UHF STATIONS IN TOP 100 MARKETS BY REVENUE CLASS AND PROFIT MARGIN, 1968

NUMBER OF UHF STATIONS IN TOP 100 RANKING STATIONS																				
1968 Revenue Class (Thousands Dollars)	1968 Pre-tax Profit Margin (3 of Total Revenue)										Independent Stations									
	Network Affiliated Stations					Total Network Affiliate					Total Independent									
	Loss	0-5	6-10	11-15	16-20	21-25	26-30	over 30	Loss	0-5	6-10	11-15	16-20	Loss	0-5	6-10	11-15	16-20	Total	
over 3,000														2					2	2
2,000-3,000									3					4				1	5	9
1,500-2,000					3				2					2					2	4
1,000-1,500			1					1	5					3					3	8
800-1,000	1	1	1	1		1			2					3					3	5
600-- 800	2								11					3		1			4	15
400-- 600	6		3	1		1			3					10					10	13
200-- 400	2	1							1					5					5	6
100-- 200	1								4					11					11	15
Less than 100	3			1		5		1	31					43		1			45	76
TOTAL	15	2	5	3		5		1	1					43		1			45	76



is completely changed. 35/ Although the local stations' program audience is reduced due to fractionalization, 100% of the local stations' "commercial audience" 36/ is retained. Assuming this is practical, the problem of impact becomes manageable, and in fact, may disappear. For example, each station in a three-station market may currently have a one-third of the total audience; and its commercials are exposed to this same audience. If CATV carries several distant stations, the audience in CATV homes for each of the local station's programs would drop from 33-1/3% share to (say) 24% share for a total of 72% share to the local stations. However, if all commercials on distant stations were replaced by those of the three local stations, so that each local station received the benefit of one-third of the 28% share of the distant stations' audience, each local station would end up with the same commercial exposure as it did in the absence of CATV, i.e. one-third of the total audience. Result: no impact on these local stations; and viewers are exposed to local commercials instead of those from distant markets. 37/

43. The feasibility of commercial substitution remains to be established. Distant signals are often carried into a television market via microwave relays; CATVs in that market pick up the distant signal transmissions from a point in their market and send it to their head ends for insertion on the cable for subscriber viewing. Commercial substitution may be accomplished at some convenient point in the market before the cable systems pick up the distant signals. (This could be at one of the local stations that benefit from commercial substitution).

44. The electronic deletion and insertion of commercials could be automated, if each television station carried by CATV were required to transmit an electronic code, 10 seconds prior to a program break, which code would signify the total number of seconds for the break. At the switching point in the CATV's market, a computer-switcher (estimated to cost about \$50,000) would delete the material during the interruption

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35/ When CATV substitutes a local network affiliate on the channel that is carrying a distant affiliate, to comply with the non-duplication requirements, the effect is exactly the same. Viewers of that distant affiliate are being exposed to commercials of the local affiliate, instead of those of the distant one; but they view the same program the distant station broadcasts.

36/ As used in this report, "commercial audience" is the audience exposed to the commercials, which is assumed to be the same as the audience for the adjacent programs.

37/ For reference a copy of the commercial substitution provisions in the Commission's "Second Further Notice of Proposed Rule-making" in Docket No. 18397-A, is attached as Appendix 4.



and turn on, in succession as programed, video players with 20 second, 30 second or 60 second local station commercials to fill the signalled number of seconds for the break. If video recorder-players are not available (such as they might be at a local station) helical scan recorders could be purchased for approximately \$13,000 each.





Part II-- Effect of CATV on Television Programming,  
on Program Suppliers and Other Copyright Owners

47. Cable systems which carry only local stations, such as in New York City, have little, if any, effect on television station programming. Cable subscribers on such systems receive the same stations as do the off-the-air viewers; they simply have better reception. CATVs that carry distant stations will have an impact on the program marketplace. In order to analyze this it is useful to summarize and quantify all the program elements of the television broadcast industry. This is done in Table 9 which gives the values of the four components of the television industry programming costs, which totalled \$1,225,900,00 in 1968.

Network Programming

48. During 1968, all three television networks spent \$1.01 per TV home for programs they produced (of which about half was for news and public affairs) and \$9.34 per TV home for purchases of programs and program rights from others, for a total of \$13.35 per TV home. When a program supplier sells the rights for a network showing to a network, the supplier understands that this covers a nationwide transmission and the program owners are fully compensated in the price. CATV effectively gives the program greater national exposure (e.g. in markets with less than 3 stations), which is what the networks desire. CATVs' carriage of network programs (which the FCC requires locally) should thus not be regarded as exposure to an audience which the programs were originally not intended to reach. While it is recognized that CATV will cause a reduction of perhaps 4% to 5% in the audience for network programming (from anticipated levels in the absence of CATV), this is not expected to have a significant effect on the prices paid by networks for programs (para. 28).

Television Station Programming

49. Television stations spend an average of \$4.13 per TV home in their market (Area of Dominant Influence) for producing their own programs, much of which is for local news programs. CATV carriage of local stations in their own markets again does not constitute exposure to an audience which the programs were originally not intended to reach. Significant losses in local station audiences due to fractionalization in CATV homes would undoubtedly effect expenditures for local programming. But this is simply part of the impact



Table 9

COSTS OF PROGRAMMING THE COMMERCIAL TV SYSTEM - 1968

	Millions of Dollars	Cost Per TV Home <u>1/</u>
Programs produced by TV networks <u>2/</u>	\$ 230.5	\$ 4.01
Programs supplied to 3 TV networks <u>3/</u>	537.0	9.34
Programs produced by TV stations <u>4/</u>	237.7	4.13
Programs supplied to TV stations <u>5/</u>	220.7	3.84
 Total programming costs	 \$1,225.9	 \$21.32

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Source: Annual financial reports (FCC Form 324) from TV stations and networks.

1/ ARB reports 57.5 million TV homes on January 1, 1969.

2/ Total program expenses reported by networks (\$816.3 million) less distribution line costs (\$48.8 million) and less costs of programs and rights purchased (\$537.0 million).

3/ Cost of programs, fees and rights purchased by networks.

4/ Total program expenses reported by stations (\$458.4 million) less costs of programs and rights purchased. (\$220.7 million).

5/ Cost of film and tape rentals (\$157.5 million), outside news service (\$13.7 million), music license fees (\$37.2 million) and other performance and program rights (\$12.3 million).



problem discussed in Part I. To the extent that a plan, such as "commercial substitution", reduces the CATV impact on financially weak local stations, it permits the stations to maintain their local programming activities.

#### Purchase of Programs and Rights by Television Stations

50. Of the total of \$220.7 million spent by television stations in 1968 for purchases of programs and rights (Table 9), \$157.5 million was used to purchase syndicated programs, \$13.6 million for outside news services, \$37.2 million for music license fees and \$12.3 million for other performance and program rights. This totals to \$3.84 per TV home in the U.S. This annual expenditure per TV home varies somewhat by market size, with the larger markets generally reporting larger expenditures per TV home (Table 10). In the top three markets--New York, Los Angeles and Chicago--the average was \$6.34 per TV home. In the remaining top 100 TV markets, where CATV is most likely to carry distant stations, the average annual expenditure was \$3.28 per TV home.

51. Where CATV carries many distant independent stations, some syndicated program series will be carried before (or concurrently with) their first broadcast in the market by a local television station, thus negating the local station's market exclusive for these programs. (However, the exclusive is only broken for CATV subscriber homes). For purposes of rough calculations, it is assumed that about half the local station's syndicated programs will be so pre-released (or concurrently released) in CATV homes. 39/ It is estimated that an average second run for a syndicated program sells for 40% less than the first run in the same market. Thus, the loss of exclusives due to CATV carrying distant stations should prompt the local stations to lower their buying prices for syndication by amounts which would reflect a reduction of \$.66 per CATV subscriber per year ( $\$3.28 \times 50\% \times 40\%$ ). Furthermore, during non-network syndicated programming, the local stations may expect a maximum fractionalization of their audiences in CATV homes, and would lose an estimated 40% of their current shares. 40/ This loss would also

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39/ There are now sufficient syndicated programs to program seven or more stations simultaneously in a market (3 of which are affiliates), since that is just what happens in Los Angeles. Thus, local stations should be able to select a good deal of first-run syndicated material even when competing with four distant independents just as do the network affiliates in Los Angeles. Furthermore, although the syndicators now find it expedient to sell to the largest markets first, they may adjust their selling practices under conditions of expanded CATV (i.e. delay sales to largest markets which have their independents carried by many CATVs) to obtain first-run advantages in more markets in order to maximize their profits.

40/ Distant stations' programs would probably be just as popular as local stations' non-network programming, except that the local stations have the edge in carry over audiences from local news programs.





TABLE 10

## AVERAGE TV PROGRAM AND PROGRAM RIGHTS COST PER MARKET AND STATION

Markets, Ranked by TV Homes in the ADI (ARB Jan. 1970)	Market Expenses for Syndication, Music and Other Program Rights (In Thousand Dollars)	Expenses Per TV Home in the ADI	Expenses Per TV Home Per Station in the Market
Total U. S.	\$ 220,700	\$ 3.84	
Average 1-3 NY, LA, Chicago	24,525	6.34	\$ .76
Average 4-6 Phil., Boston, San Frans.	7,951	4.78	.80
Average 7-10 Det., Clev., Wash., Pitts.	4,173	3.68	.77
Average 11-20	2,702	3.99	.89
Average 21-30	1,827	3.51	.98
Average 31-40	1,193	2.88	.85
Average 41-50	938	2.66	.68
Average 51-60	802	2.69	.90
Average 61-70	573	2.24	.66
Average 71-80	419	1.91	.65
Average 81-90	391	2.31	.72
Average 91-100	248	1.69	.65
Average 4-100	1,355	3.28	.93

Source: TV Station 1968 Annual Financial Reports (FCC Form 324) and ARB  
ADI TV Households as of Jan. 1, 1970.



be reflected in the prices that the local stations would be willing to pay to syndicators. Thus, instead of \$2.62 per subscriber (\$3.28 minus \$.66), the local stations will expect to spend \$1.05 less ( $\$2.62 \times 40\%$ ) or only \$1.57 per subscriber for the same programs. They now pay \$3.28 per TV home. The difference of \$1.71 per subscriber is due to estimated loss of exclusivity and to fractionalization of audience during broadcasts of syndicated programs. Whether or not local stations will actually reduce their offers to buy by this calculated amount, will depend to a large extent on whether a "commercial substitution" plan or other arrangement relieves them of the financial burden of audience fractionalization.

#### Compulsory Copyright Licensing and commercial substitution

52. Under compulsory licensing, the CATVs would pay for the distant stations they carry, on the basis of a specified amount or percentage. The prices charged by program syndicators to TV stations in markets with significant CATV penetration would have to reflect the loss of exclusivity and the reduced local station audiences (due to fractionalization) in CATV homes. This has already been estimated to be equivalent to \$1.71 less per subscriber than the current yield of \$3.28 per TV home; the \$1.71 loss includes an estimate of \$1.05 loss for fractionalization. (para. 51)

53. If the commercial substitution plan were to be put into effect, most UHF stations and all VHF stations in 3-VHF markets would be shielded from the consequences of fractionalization as they would use the distant stations' audience for their own commercials. It is estimated that about half of the stations in the top 100 markets would be so shielded. Thus the average loss to program owners due to fractionalization (\$1.05 per subscriber) is reduced to \$.52½ under the commercial substitution plan. Under this plan the total loss per subscriber for program syndicators would therefore be \$1.18 (\$1.71 less \$.53).



in the United States. 44/ In return for copyright payments, CATV systems would receive a compulsory copyright license which would override market exclusivity in CATV homes. Congress would have to consider whether to except sports "black outs".

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44/ Making payments from the copyright fund on an individual program basis would probably be too cumbersome. Since the same program owners usually syndicate nationwide, the results should not be too different if payment is made in proportion to their sales to all TV stations. It has the ancillary benefit of encouraging program owners to syndicate to TV stations in small markets, since their total U.S. sales determine their copyright revenues.



Appendices to: Economic Report on TV-CATV Interface

Appendix 1 - Calculation of the UHF  
Handicap in TV Homes with  
All-Channel Sets

Appendix 2 - San Diego CATV Viewing  
Studies

Appendix 3 - Kern County (Bakersfield)  
California CATV Viewing  
Study

Appendix 4 - Commercial Substitution  
(extract from F.C.C.  
Further Notice of Proposed  
Rulemaking, Docket 18397-A,  
June 24, 1970)





# Appendix 1 to Economic Report on CATV-TV Interface

## Calculation of the UHF Handicap in TV Homes with All-Channel Sets

1. An attempt is made here to quantify the UHF handicap due to both tuner and antenna disadvantages, in terms of loss of audience in all-channel TV homes. This handicap may be expressed as a percentage as follows:

$$\text{UHF Handicap \%} = 100 \cdot \frac{\text{Reported UHF Share/UHF Set Penetration}}{\text{Expected Share if it were a VHF}}$$

The reported share of the UHF station is based on total TV sets, both VHF and all-channel, in the market area. Since our interest is only in all-channel homes, we divided the reported share by the percentage of UHF equipped households (UHF set penetration) in the market area. We have applied the above formula to network affiliated stations in five markets selected because (1) there are only three stations in the market, (2) only one of the three is UHF, (3) all three have full network affiliation.

2. The five markets and the data used in the handicap calculations are shown in Table 1.1. Audience share figures used are from the ARB November, 1969, television audience survey. UHF set penetration figures are from the same source. The expected shares used in the network affiliate analysis are regional averages of 3 station markets where the 3 stations are either all VHF or all UHF, and where all three have full network affiliation. These regional averages are shown in Table 1.2 and the markets included in the regions are shown in Table 1.3. Average network shares are the averages of ARB and Nielsen November, 1969, audience surveys, weighted by the number of sample diaries.

3. Because of the limitations in using sample diaries and because of the apparent differences in popularity of programs in different markets, the measures we obtain for UHF handicap in all-channel set homes may only be considered as rough estimates. These results, for the 9 AM-Midnight time period, are summarized as follows:

<u>Metro Area</u>	<u>ADI</u>	<u>Total Survey</u>
<u>Handicap</u>	<u>Handicap</u>	<u>Area Handicap</u>
16.4%	26.6%	31.8%



Table 1.1 Calculation of UHF Handicap for Network Affiliates, 1969

Market	Region	UHF	Reported Share		UHF Set Penetration		Adjusted Shares <u>1/</u>		Expected Share <u>2/</u>		Handicap ( <u>3/</u> )						
			9 am-11:30 pm Audience	Total Survey Area	Metro	ADI <u>2/</u>	Total Survey Area	Metro	ADI <u>2/</u>	Total Survey Area		Metro	ADI <u>2/</u>	Total Survey Area			
Jacksonville	Deep South	ABC	21.2	18.3	18.3	.92	.80	.84	23.34	18.83	22.98	28	27	28	17.7	15.3	18.2
Joplin-Pittsburg	Central Midwest	CBS	26.7	21.7	19.0	.82	.65	.65	32.55	33.38	29.23	34	38	37	4.2	12.2	22.0
Knoxville	Mid South	ABC	19.4	12.6	12.0	.95	.74	.74	20.42	17.03	16.21	32	29	30	36.2	21.3	46.0
Louisville	Industrial Midwest	ABC	25.7	20.2	20.0	.96	.84	.84	26.77	24.05	23.80	29	28	28	7.7	24.1	15.0
St. Louis City	Central Midwest	CBS	24.2	13.1	10.5	.85	.69	.69	28.47	18.98	15.21	34	38	37	16.3	50.1	58.9
AVERAGE 5 MARKETS <u>2/</u>															16.4	26.6	31.8

1/ Adjusted share equals reported share divided by the UHF set penetration

2/ Source Table 1.2

3/ ADI is the area of dominant influence as defined by AKB. The ADI set penetration was assumed to apply to the total survey area

4/ The UHF set penetration is not reported for the entire survey. Metro, 13.8%; ADI, 24.0%; Total survey area, 27.6%.



Table 1.2 Regional Averages of Audience Share by network, 1969 1/

<u>Region</u>	<u>Network</u>	Share of <u>9 am-Midnight Audience</u>		
		<u>Metro</u>	<u>ADI</u>	<u>Total Survey Area</u>
Mid South	ABC	32	29	30
	CBS	36	37	36
	NBC	32	34	34
Deep South	ABC	28	27	28
	CBS	40	40	42
	NBC	32	33	30
Industrial Midwest	ABC	29	28	28
	CBS	39	40	40
	NBC	32	32	32
Central Midwest	ABC	32	30	30
	CBS	34	38	37
	NBC	34	32	33

Source: ARB and Nielsen, November, 1969, Audience surveys

1/ Markets used to calculate the averages are shown by region in Table 1.3.





Table 1.3 Markets included in regional analysis of network audience shares, 1969

<u>Deep South</u>	<u>Mid South</u>	<u>Industrial Midwest</u>	<u>Central Midwest</u>
Charleston, S. C. <sup>1/</sup>	Chattanooga	Columbus, Ohio	Cedar Rapids-Waterloo
Mobile-Pensacola	Little Rock	Fort Wayne	Davenport-Rock Island-Moline
Orlando-Daytona Beach	Memphis	Peoria	Des Moines-Ames
New Orleans <sup>2/</sup>		South Bend-Elkhart	Fargo-Valley City <sup>3/</sup>
		Youngstown	Kansas City
			Omaha
			Wichita-Hutchinson <sup>1/</sup>

- 
- <sup>1/</sup> Excluded from the metro and ADI calculations because of extremes in the data.
- <sup>2/</sup> Only the shares of network affiliated stations were considered.
- <sup>3/</sup> Excluded from the metro area calculations because Nielsen does not define a metro area for this market.



## Appendix 2 to Economic Report on CATV-TV Interface

### San Diego CATV Viewing Studies

Calculations of the San Diego network affiliates' share of audience in CATV homes are based on the weighted average shares of two surveys conducted by the American Research Bureau (ARB) in February and March, 1969 and 1970. Table 2.1 shows the detailed calculations..

Adjustments have been made to the basic data so that San Diego would approximate a 3 VHF station market with CATV systems importing 4 distant independent stations. The adjustments are as follows:

- (1) A portion of KABC's share has been given to XETV. Network duplication protection was not complete and apparently some of the ABC network audience watched KABC rather than XETV. The assumption has been made that the shares of the other Los Angeles network affiliates reflect non-network programming, so the share of KABC has been reduced to that of KNXT in Los Angeles.
- (2) An estimate has been made of the share of KHJ (Los Angeles) KHJ was not reported because physical limitations allowed ARB to report only 10 stations. The estimate of 5.0 share points to KHJ is the average of the shares of the three other VHF independents in Los Angeles.
- (3) An estimate has been made of the share of the San Diego ETV station and a Mexican Spanish language station totaling 1.5 share points, as the balance of 6.5 points unaccounted viewing less 5.0 points to KHJ.
- (4) The remaining shares of Los Angeles network affiliates (8.5 points) have been distributed between the San Diego network affiliates (4.5 points) and Los Angeles independents (4.0 points) to approximate the share gain in non-network programming when no distant network affiliates are imported.
- (5) The 4.0 share points of the San Diego UHF independent and ETV and the Mexican independent have been distributed evenly between the San Diego affiliates and Los Angeles independents to approximate the shares if San Diego were a 3 station market importing 4 VHF independents.



Table 2.1 Audience Shares in CATV Homes, San Diego, California

Station	Shares 9 AM-Midnight		Adjustment For		Adjusted Average Share	Adjusted Share Corrected to Base = 100	Adjustment to Assume 4 Imported Signals 2/	Adjustment to Assume 3 VHF Locals 2/	Final Adjusted Share
	Reported 1969	Reported 1970	Weighted Average Share 1/	Non-Duplication and Un-reported Viewing 2/					
San Diego									
XFTV (ABC)	16	16	16.0	+5.1	21.1	20.3			
KFMB (CBS)	26	21	23.0		23.0	22.2			
KOGO (NBC)	29	25	26.6		26.6	25.6			74.5
Total Local Network Affiliates			65.6		70.7	68.1	+4.5	+1.9	
KCST (IND)	2	3	2.6		2.6	2.5			
KBBS (ETV)	-	-	-	+1.5	1.5	1.4			
XEWT (IND)	-	-	-		4.1	3.9		-3.9	
Total Other Local			2.6						
Los Angeles									
KABC (ABC)	6	9	7.7	-5.1	2.6	2.5			
KNXT (CBS)	2	3	2.6		2.6	2.5			
KNBC (NBC)	3	4	3.6		3.6	3.5	-8.5		
Total Distant Network Affiliates			13.9		8.8	8.5			
KTTV (IND)	4	6	5.2		5.2	5.0			
KCOB (IND)	6	6	6.0		6.0	5.8			
KTLA (IND)	4	4	4.0	+5.0	4.0	3.9			
KHJ (IND)	-	-	-		5.0	4.8			
Total Distant Independents			15.2		20.2	19.5	+4.0	+2.0	25
Estimated Un-reported			6.5	-6.5					100
TOTAL	97	98	103.8		103.8	100.0			

Sources: Special ARE Surveys for February/March 1969 and February/March 1970.

1/ Weights were calculated as follows: This weight is applied to the share of each station in 1969.

1969: HUT (39) X Sample size (108) = 3696. This weight is applied to the share of each station in 1970.

1970: HUT (39) X Sample size (175) = 5950. This weight is applied to the share of each station in 1970.

Weighted average share =  $\frac{(1969 \text{ share}) \cdot (1969 \text{ weight}) + (1970 \text{ share}) \cdot (1970 \text{ weight})}{(1969 \text{ weight}) + (1970 \text{ weight})}$



JUNE 1970

ARB SPECIAL TABULATION  
#72008

SAN DIEGO COUNTY, CALIFORNIA  
AVERAGE QUARTER HOUR ESTIMATES  
DAY PART SUMMARY  
RATING AND SHARE BY CATV AND  
NON-CATV  
(ARB FEB/MAR 1970 TV DIARY DATA)

DATA APPEARING IN THIS REPORT  
ARE ONLY ESTIMATES SUBJECT TO  
THE LIMITATIONS OUTLINED HEREIN

Prepared by:  
ARB Special Studies Department







## INTRODUCTION

The data appearing in this report were extracted from ARB Television diaries from the February/March 1970 Measurement Period. Two groups of diaries were used:

- 1) All Television Market Report in-tab diaries from San Diego County, California.
- 2) An oversample of only CATV homes in San Diego County.

It must be emphasized that the oversample diaries (group #2 above) were not used as source data in the preparation of ARB's February/March 1970 San Diego Television Market Report -- only group #1 diaries were used for that purpose.

Group 1 diaries were divided into CATV/Non-CATV and group 2 diaries were merged with the CATV portion. The reporting format is as requested by the Federal Communications Commission.





# SURVEY AREA

San Diego County, California

## SAMPLE

	<u>ESTIMATED TV HOUSEHOLDS</u>	<u>TV HOUSEHOLDS TABULATED</u>
CATV	---	88
CATV (oversample)	---	87
TOTAL CATV	55,200	175
NON-CATV	339,400	477
TOTAL	394,600	652

## TELEVISION STATIONS REPORTED

<u>STATION</u>	<u>FCC AUTHORIZED IDENTIFICATION</u>	<u>CHANNEL</u>	<u>AFFILIATION</u>
KNXT	Los Angeles, Ca.	2	CBS
KNBC	Los Angeles, Ca.	4	NBC
KTLA	Los Angeles, Ca.	5	IND
KETV	Tijuana, Mexico	6	ABC
KABC	Los Angeles, Ca.	7	ABC
KFMB	San Diego, Ca.	8	CBS
KOGO	San Diego, Ca.	10	NBC
KTTV	Los Angeles, Ca.	11	IND
KCOP	Los Angeles, Ca.	13	IND
KCST	San Diego, Ca.	39	IND





## DESCRIPTION OF AUDIENCE CATEGORIES

Data in this report are presented as Metro Rating (Col. 1) and Metro Share (Col. 2) for CATV and Non-CATV Distributions.

METRO RATING (Col. 1) - A Metro Rating is defined as the percentage of the TV households estimated to have been reached by a reported station during the average quarter hour of a reported time period. If a Metro Rating is estimated to be less than 0.5% for a time period, the symbol (-1) is used; this symbol is not intended to imply that no viewing occurred.

METRO SHARE (Col. 2) - Metro Share is the percentage of all viewing households estimated to have been acquired by each reported station during a reported time period. Shares are based on Households Using Television (HUT), and thus it is possible for the sum of shares to exceed 100%. It should be noted also that Metro Shares are calculated from unrounded ratings and HUT; since these latter are published as rounded estimates, it is possible for two stations with identical reported Metro Ratings to have different Metro Shares.







## SPECIAL NOTICES

This Report was produced for the Federal Communications Commission as a one time only special order and is not part of ARB's regular service.

To conform to the Metro Rating and Metro Share format as requested by the FCC, this report was produced on the IBM 7090 System and not the CDC 3300 System which ARB presently uses to tabulate Local Television Market Reports.

It must be realized that the raw data from which this report was produced includes a special diary oversample of only CATV homes in San Diego County. This oversample was merged with the regular February/March 1970 in-tab diary sample.

The methodology used in preparing this report parallels that used by ARB in the production of its market reports. The limitations which apply to the market reports also apply to these data. These limitations have been reprinted and enclosed with this report for the user's convenience.

Stations indicated with a double asterisk (\*\*) have audience estimates on less air time than stations which are not indicated.

Due to technical difficulties, station KCST was off the air from 2:01 P.M. to 2:09 P.M. on Saturday, February 28, 1970.









SAN DIEGO COUNTY, CALIFORNIA  
AVERAGE QUARTER HOUR ESTIMATES  
RATING AND SHARE BY CATV AND NON-CATV  
(ARB FEBRUARY/MARCH 1970 TV DIARY DATA)

DAY PART	STATION	CATV		NON-CATV	
		RATING	SHARE	RATING	SHARE
MONDAY-FRIDAY					
9 AM TO 12 NOON	KNXT	-1		-1	
	KNBC	1	5	-1	
	KTLA	-1		-1	
	XETV	1	6	1	10
	KABC	2	9	-1	
	KFMB	3	19	5	37
	KOGO	6	38	5	39
	KTTV	-1		-1	
	KCOP	2	10	-1	
	HUT	17		13	
NOON TO 5 PM	KNXT	1	2	1	3
	KNBC	1	5	1	3
	KTLA	1	4	-1	
	XETV	3	15	4	19
	KABC	2	10	1	2
	KFMB	6	27	9	42
	KOGO	4	19	5	23
	KTTV	1	4	-1	
	KCOP	1	6	-1	
	** KCST	1	4	1	2
	HUT	23		22	
	5 PM TO 7:30 PM	KNXT	2	4	1
KNBC		3	5	1	2
KTLA		3	6	1	1
XETV		6	11	13	26
KABC		4	8	1	2
KFMB		11	21	14	29
KOGO		8	16	12	24
KTTV		4	7	1	1
KCOP		7	13	2	4
KCST		2	3	2	4
HUT		52		50	

\*\* ESTIMATES BASED ON LESS AIR TIME THAN UNMARKED STATIONS.







SAN DIEGO COUNTY, CALIFORNIA  
AVERAGE QUARTER HOUR ESTIMATES  
RATING AND SHARE BY CATV AND NON-CATV  
(ARB FEBRUARY/MARCH 1970 TV DIARY DATA)

DAY PART	STATION	CATV		NON-CATV	
		RATING	SHARE	RATING	SHARE
MONDAY-FRIDAY					
5 PM TO 7:00 PM	KNXT	2	4	1	3
	KNBC	3	6	1	2
	KTLA	3	7	1	1
	XETV	5	10	12	25
	KABC	3	7	1	2
	KFMB	10	19	14	28
	KOGO	9	17	12	25
	KITV	4	7	1	1
	KOOP	7	15	2	5
	KCST	1	3	2	4
HUT		51		49	
7 PM TO 7:30 PM	KNXT	1	2	2	3
	KNBC	2	3	1	2
	KTLA	3	5	1	1
	XETV	9	16	17	31
	KABC	6	10	1	2
	KFMB	15	25	17	30
	KOGO	8	13	12	21
	KITV	4	7	1	1
	KOOP	5	8	1	2
	KCST	3	5	3	6
HUT		58		55	
11 PM TO 11:30 PM	KNXT	-1	-	1	4
	KNBC	1	3	1	3
	KTLA	1	7	-1	
	XETV	1	4	3	16
	KABC	1	7	-1	
	KFMB	5	23	6	34
	KOGO	7	33	7	36
	KITV	1	7	-1	
	KOOP	1	7	-1	
	KCST	1	3	1	3
HUT		20		18	







SAN DIEGO COUNTY, CALIFORNIA  
AVERAGE QUARTER HOUR ESTIMATES  
RATING AND SHARE BY CATV AND NON-CATV  
(ARB FEBRUARY/MARCH 1970 TV DIARY DATA)

DAY PART	STATION	CATV		NON-CATV	
		RATING	SHARE	RATING	SHARE
MONDAY-FRIDAY					
11:30 PM TO 1 AM	KNXT	-1		-1	
	KNBC	-1		-1	
	** KTLA	1	9	-1	13
	XETV	1	12	1	
	KABC	-1		-1	
	KFMB	2	21	2	20
	KOGO	4	36	4	47
	KTTV	1	7	-1	
	KCOP	-1		-1	
	** KCST	-1		-1	
		11		9	
HUT					
SATURDAY					
9 AM TO 12 NOON	KNXT	1	4	1	4
	KNBC	-1		-1	
	KTLA	-1		-1	
	XETV	2	9	4	18
	KABC	1	5	-1	
	KFMB	3	18	5	26
	KOGO	9	49	8	39
	KTTV	2	9	1	5
	KCOP	-1		-1	
	** KCST	-1		-1	
		19		20	
HUT					
SUN THRU SATURDAY					
7:30 PM TO 11 PM	KNXT	1	2	2	3
	KNBC	2	4	2	4
	KTLA	2	4	1	1
	XETV	12	21	15	27
	KABC	5	9	1	2
	KFMB	13	22	15	27
	KOGO	18	30	19	33
	KTTV	3	4	-1	
	KCOP	1	2	-1	
	** KCST	1	1	1	1
		59		56	
HUT					

\*\* ESTIMATES BASED ON LESS AIR TIME THAN UNMARKED STATIONS.





SAN DIEGO COUNTY, CALIFORNIA  
AVERAGE QUARTER HOUR ESTIMATES  
RATING AND SHARE BY CATV AND NON-CATV  
(ARB FEBRUARY/MARCH 1970 TV DIARY DATA)

DAY PART	STATION	CATV		NON-CATV	
		RATING	SHARE	RATING	SHARE
SUN THRU SATURDAY					
7:30 PM TO 9 PM	KNXT	1	2	2	3
	KNBC	3	5	3	4
	KTLA	3	4	1	1
	XETV	14	22	18	29
	KABC	6	9	2	3
	KFMB	14	22	17	27
	KOGO	19	29	19	31
	KTIV	3	5	-1	
	KCOP	1	2	-1	
	KCST	1	1	1	1
HUT		66		62	
9 PM TO 11 PM	KNXT	2	3	2	3
	KNBC	2	3	2	4
	KTLA	2	4	1	1
	XETV	11	20	14	26
	KABC	5	9	1	2
	KFMB	12	23	14	26
	KOGO	17	31	18	35
	KTIV	2	4	-1	
	KCOP	1	2	-1	
	KCST	1	1	-1	
HUT		55		52	
9 AM TO MIDNIGHT	KNXT	1	3	1	3
	KNBC	2	4	1	3
	KTLA	1	4	-1	
	XETV	5	16	8	25
	KABC	3	9	1	2
	KFMB	7	21	9	30
	KOGO	8	25	9	30
	KTIV	2	6	-1	
	KCOP	2	6	1	2
	KCST	1	3	1	2
HUT		34		32	

\*\* ESTIMATES BASED ON LESS AIR TIME THAN UNMARKED STATIONS.



SAN DIEGO COUNTY, CALIFORNIA  
AVERAGE QUARTER HOUR ESTIMATES  
RATING AND SHARE BY CATV AND NON-CATV  
(ARB FEBRUARY/MARCH 1970 TV DIARY DATA)

<u>DAY PART</u>	<u>STATION</u>	<u>CATV</u>		<u>NON-CATV</u>	
		<u>RATING</u>	<u>SHARE</u>	<u>RATING</u>	<u>SHARE</u>
SUN THRU SATURDAY					
SIGN ON/OFF		1	3	1	3
	** KNBC	1	4	1	3
	** KTLA	1	4	-1	
	** XETV	5	16	7	24
	** KABC	2	8	1	2
	** KFMB	6	22	8	30
	** KOGO	7	24	8	30
	** KTTV	2	6	-1	
	** KTOP	2	7	1	2
	** KCST	1	3	1	2
		28		26	
HUT					

\*\* ESTIMATES BASED ON LESS AIR TIME THAN UNMARKED STATIONS.







ARB SPECIAL TABULATION

SAN DIEGO

CATV-NON CATV SPECIAL REPORT

AVERAGE QUARTER HOUR ESTIMATES

FEB/MAR 1969

SPECIAL NOTICES

THE SAN DIEGO CATV-NON CATV SPECIAL REPORT WAS DESIGNED BY THE FEDERAL COMMUNICATIONS COMMISSION AND WAS PRODUCED ON SPECIAL ORDER. IT IS NOT A PART OF ARB'S REGULAR SERVICE.

THIS IS A SPECIAL TABULATION OF ARB AUDIENCE DATA AS SPECIFIED BY THE ORDERING CLIENT. ARB VIEWING DIARIES USED FOR THE COMPUTATION OF THE AUDIENCE ESTIMATES PUBLISHED IN THIS REPORT, EITHER IN WHOLE OR IN PART AS SPECIFIED BY THE ORDERING CLIENT, ARE THE SAME AS THOSE DIARIES USED IN THE REGULARLY PUBLISHED MARKET REPORT TO WHICH THEY ARE RELEVANT. FOR THE PURPOSE OF FURTHER TABULATION, ARB HOLDS ALL ORIGINAL MATERIAL USED IN ITS REGULARLY ISSUED REPORTS FOR EIGHTEEN MONTHS AFTER THE PUBLICATION OF THOSE REPORTS.

SINCE THE MATERIAL AND METHODS USED IN THIS SPECIAL TABULATION ARE THE SAME AS THOSE USED IN THE ORIGINAL MARKET REPORTS, ALL CONDITIONS AND LIMITATIONS APPLICABLE TO THE MARKET REPORTS ALSO APPLY TO THIS SPECIAL ANALYSIS. THESE CONDITIONS AND LIMITATIONS ARE REPRINTED AND ENCLOSED WITH THIS REPORT FOR THE USER'S CONVENIENCE.



# DESCRIPTION OF SURVEY AREA

COUNTY	TV HH ESTIMATES	TV HH IN TAB
San Diego, Ca. CATV	41,500	108
San Diego, Ca. NON CATV	338,900	486

## STATIONS

TV STATION	IDENTIFICATION AUTHORIZED BY FCC	CHANNEL	AFFILIATION
KNXT	LOS ANGELES, CA.	2	CBS
KNBC	LOS ANGELES, CA.	4	NBC
KTLA	LOS ANGELES, CA.	5	IND
XETV	TIJUANA, MX	6	ABC
KABC	LOS ANGELES, CA.	7	ABC
KFMB	SAN DIEGO, CA.	8	CBS
KOGO	SAN DIEGO, CA.	10	NBC
KTTV	LOS ANGELES, CA.	11	IND
KCOP	LOS ANGELES, CA.	13	IND
KCST	SAN DIEGO, CA.	39	IND

## DESCRIPTION OF AUDIENCE CATEGORIES

**METRO RATING (Col. 1)** - A Metro Rating is defined as the percentage of above TV households estimated to have been reached by a reported station during the average quarter hour of a reported time period. If a Metro Rating is estimated to be less than 0.5% for a time period, the symbol (-1) is used; this symbol is not intended to imply that no viewing occurred.

**METRO SHARE (Col. 2)** - Metro Share is the percentage of all viewing households estimated to have been acquired by each reported station during a reported time period. Shares are based on Households Using Television (HUT), and thus it is possible for the sum of shares to exceed 100%. It should be noted also that Metro Shares are calculated from unrounded ratings and HUT; since these latter are published as rounded estimates, it is possible for two stations with identical reported Metro Ratings to have different Metro Shares.



# SAN DIEGO CATV-NON CATV SPECIAL REPORT

## AVERAGE QUARTER HOUR ESTIMATES

FEB/MAR 1969

DAY PART	STATION	CATV		NON-CATV	
		RATING	SHARE	RATING	SHARE
MONDAY-FRIDAY					
9 am to 12 noon	KNXT	-1		-1	2
	KNBC	1	5	1	7
	KTLA	-1	1	-1	
	XETV	-1	2	1	11
	KABC	1	8	-1	2
	KFMB	7	41	5	36
	KOGO	5	25	5	39
	KTTV	1	8	-1	1
	KCOP	1	5	-1	1
		18		13	
HUT					
Noon to 5 pm	KNXT	-1	1	1	3
	KNBC	1	3	1	3
	KTLA	1	5	-1	2
	XETV	4	16	5	23
	KABC	1	4	-1	2
	KFMB	9	33	7	30
	KOGO	7	25	8	34
	KTTV	1	3	-1	
	KCOP	2	8	-1	2
	**KCST	1	3	1	2
	28		22		
HUT					
5 pm to 7:30 pm	KNXT	1	2	1	2
	KNBC	1	1	1	3
	KTLA	2	3	1	2
	XETV	6	11	11	23
	KABC	5	8	1	2
	KFMB	14	26	15	30
	KOGO	17	31	15	31
	KTTV	1	3	-1	1
	KCOP	7	12	2	4
	KCST	1	2	2	4
	56		49		
HUT					
5 pm to 7 pm	KNXT	1	2	1	2
	KNBC	1	2	1	3
	KTLA	1	3	1	2
	XETV	6	10	10	22
	KABC	5	8	1	2
	KFMB	13	23	14	29
	KOGO	18	33	15	32
	KTTV	1	2	-1	
	KCOP	7	13	2	4
	KCST	1	1	2	4
			47		

HUT \*\*ESTIMATES BASED ON LESS AIR TIME THAN UNMARKED STATIONS.



# SAN DIEGO CATV-NON CATV SPECIAL REPORT

## AVERAGE QUARTER HOUR ESTIMATES

FEB/MAR 1969

DAY PART	STATION	CATV		NON-CATV	
		RATING	SHARE	RATING	SHARE
7 pm to 7:30 pm	KNXT	-1		1	2
	KNBC	-1		1	2
	KTLA	2	3	1	2
	XETV	9	14	15	27
	KABC	5	8	1	2
	KFMB	20	33	18	32
	KOGO	14	23	16	28
	KTTV	3	6	1	2
	KCOP	5	9	2	3
	KCST	2	3	1	2
	HUT	61		56	
11 pm to 11:30	KNXT	-1	1	1	2
	KNBC	-1	1	1	3
	KTLA	1	3	-1	1
	XETV	4	12	4	15
	KABC	5	17	1	3
	KFMB	9	28	8	35
	KOGO	9	28	10	39
	KTTV	1	4	-1	1
	KCOP	1	3	-1	1
	KCST	-1		-1	1
	HUT	32		24	
11:30 pm to 1 am	KNXT	-1		-1	3
	KNBC	-1		-1	4
	KTLA	1	6	-1	1
	XETV	4	26	2	23
	KABC	-1	1	-1	1
	**KFMB	5	30	2	22
	KOGO	5	31	5	47
	KTTV	1	4	-1	
	KCOP	1	7	-1	1
	**KCST	-1		-1	2
	HUT	15		10	

\*\*ESTIMATES BASED ON LESS AIR TIME THAN UNMARKED STATIONS.





# SAN DIEGO CATV-NON CATV SPECIAL REPORT

## AVERAGE QUARTER HOUR ESTIMATES

FEB/MAR 1969

DAY PART	STATION	CATV		NON-CATV	
		RATING	SHARE	RATING	SHARE
SATURDAY					
9 am to 12 Noon	KNXT	1	4	-1	2
	KNBC	-1		-1	1
	KTLA	-1		-1	1
	XETV	-1	2	2	9
	KABC	2	11	-1	2
	KFMB	6	31	6	30
	KOGO	9	46	10	54
	KTTV	1	5	-1	1
	KCOP	-1	1	-1	1
	** KCST	-1		-1	1
HUT		20		19	
SUN THRU SAT					
7:30 pm to 11 pm	KNXT	1	1	2	3
	KNBC	2	3	2	2
	KTLA	2	4	1	22
	XETV	13	22	13	3
	KABC	3	4	2	26
	KFMB	15	24	15	39
	KOGO	20	33	22	1
	KTTV	3	4	1	1
	KCOP	2	3	1	2
	KCST	1	1	1	
HUT		60		56	
7:30 pm to 9 pm	KNXT	1	1	2	3
	KNBC	3	4	3	5
	KTLA	2	3	1	1
	XETV	15	23	14	22
	KABC	3	5	2	3
	KFMB	14	21	16	25
	KOGO	22	33	25	40
	KTTV	2	3	1	1
	KCOP	3	4	1	1
	KCST	1	1	1	2
HUT		66		62	

\*\*ESTIMATES BASED ON LESS AIR TIME THAN UNMARKED STATIONS.



# SAN DIEGO CATV-NON CATV SPECIAL REPORT

## AVERAGE QUARTER HOUR ESTIMATES

FEB/MAR 1969

DAY PART	STATION	CATV		RATING	NON-CATV	
		RATING	SHARE		SHARE	
SUN THRU SAT (con'd)						
9 pm to 11 pm	KNXT	1	1	1		3
	KNBC	1	1	2		4
	KTLA	3	5	1		2
	XETV	12	21	12		22
	KABC	2	4	2		3
	KFMB	15	27	14		27
	KOGO	18	33	20		38
	KTTV	3	5	1		1
	KCOP	1	2	-1		1
	KCST	1	1	1		1
		56		53		
HUT						
9 am to Mnght	KNXT	1	2	1		3
	KNBC	1	3	1		4
	KTLA	1	4	1		2
	XETV	6	16	7		22
	KABC	2	6	1		2
	KFMB	10	26	9		28
	KOGO	11	29	12		36
	KTTV	2	4	-1		1
	KCOP	2	6	1		2
	** KCST	1	2	1		2
		37		32		
HUT						
SIGN ON/SIGN OFF	KNXT	1	2	1		3
	** KNBC	1	3	1		4
	** KTLA	1	4	1		2
	** XETV	5	15	6		21
	** KABC	2	6	1		2
	** KFMB	8	26	8		28
	** KOGO	9	29	10		37
	** KTTV	2	5	-1		1
	** KCOP	2	7	1		2
	** KCST	1	2	1		2
		30		26		
HUT						

\*\*ESTIMATES BASED ON LESS AIR TIME THAN UNMARKED STATIONS.



## Appendix 3 to Economic Report on CATV-TV Interface

### Kern County (Bakersfield) California CATV Viewing Study

Calculations of the Bakersfield network affiliates' shares in CATV homes are based on a special ARB report for November 1968. Table 3.1 shows the detailed calculations.

Adjustments have been made in the basic data to correct for programs not protected under non-duplication agreements, and to make the imported signals equivalent to four VHF independents.

These adjustments are:

- (1) A re-distribution of 8 share points from the Los Angeles affiliates to approximate the share gain if Bakersfield stations were fully protected against program duplication.
- (2) A re-distribution of 4 share points to the Los Angeles independent stations and 3 points to the Bakersfield affiliates to approximate the share gains in non-network programming when no distant network affiliates are imported.





Table 3.1 - Audience Shares in CATV Homes, Bakersfield, Calif., 1968

<u>Station</u>	<u>9 AM-Mid Share CATV Homes</u>	<u>Correction for Un-Protected Programs</u>	<u>Adjustment to Assume 4 imported Signals</u>	<u>Adjusted Share</u>	<u>Final Share Adjusted to Base 100.0</u>
<u>Bakersfield</u>					
KLYD(ABC)	15				
KERO(NBC)	26				
KBAK(CBS)	16				
Total Local Net. Affils.	57	+8	+3	68	66
<u>Los Angeles</u>					
KNXT(CBS)	4				
KNBC(NBC)	5				
KABC(ABC)	6				
Total Distant Net. Affils.	15	-8	-7	0	0
KTLA(ind.)	9				
KHJ(Ind.)	8				
KTTV(Ind)	9				
KOOP(Ind.)	5				
Total Distant Independents	31		+4	35	34
Total	103			103	100

Source: Special ARB report, November 1968



# ARB SPECIAL TABULATION

## KERN COUNTY WEST (BAKERSFIELD)

### CATV

### SPECIAL REPORT

SURVEY PERIOD: November 6 thru 26, 1968

### SURVEY AREAS

	NON-CATV TV HH <u>ESTIMATES</u>	NON-CATV TV HH <u>IN-TAB</u>
Kern County West	61,000	187
	CATV TV HH <u>ESTIMATES</u>	CATV TV HH <u>IN-TAB</u>
Kern County West	22,100	104

<u>TV STATION</u>	<u>IDENTIFICATION AUTHORIZED BY FCC</u>	<u>CHANNEL</u>	<u>AFFILIATION</u>
KLYD	Bakersfield, Ca.	17	ABC
KERO	Bakersfield, Ca.	23	NBC
KBAK	Bakersfield, Ca.	29	CBS
KNXT	Los Angeles, Ca.	2	CBS
KNBC	Los Angeles, Ca.	4	NBC
KTLA	Los Angeles, Ca.	5	IND
KABC	Los Angeles, Ca.	7	ABC
KHJ	Los Angeles, Ca.	9	IND
KTTV	Los Angeles, Ca.	11	IND
KCOP	Los Angeles, Ca.	13	IND

This report was ordered by Covington & Burling. It is not a part of ARB's regular service.



KERN COUNTY WEST CATV SPECIAL REPORT  
AVERAGE QUARTER HOUR ESTIMATES

NOVEMBER 1968

DAY-PART AUDIENCE SUMMARY

METRO AREA

TOTAL

L.A.N.

NON-CATV

Day-Part

Monday-Friday  
7 PM to 7:30 PM

Station	MET. RAT	MET. SHARE	Metro Rat.	Metro Share	MET. RATING	MET SHARE
KLYD	12	21	4	7	15	27
KERO	17	30	8	13	20	37
KBAK	13	23	9	15	14	26
KNXT			-1	1	-1	1
KNBC			4	7	1	1
KTIA			6	9	-1	1
KABC			9	15	1	2
KHJ			6	10	-1	1
KTTV			11	18	2	4
KCOP			4	8		
			59		55	

Hut and Totals.

11 PM to 11:30 PM

KLYD	2	11	2	9	2	12
KERO	8	50	8	33	9	60
KBAK	3	18	2	9	3	24
KNXT			1	5	-1	1
KNBC			1	3	-1	3
KTIA			4	16	-1	1
KABC			2	10	-1	
KHJ			1	4	-1	
KTTV			2	8	-1	
KCOP			1	5		
			24		14	

Hut and Totals

11:30 PM to 1 AM

KLYD	1	14	1	6	1	20
KERO	5	66	6	53	4	75
KBAK	-1	5	1	6	-1	4
KNXT			1	6	-1	
KNBC			-1		-1	2
KTIA			2	17	-1	
KABC			1	5	-1	
KHJ			-1	4	-1	
KTTV			-1	4	-1	
KCOP			-1	2		
			11		6	

Hut and Totals

Saturday

9 AM to 12 Noon

KLYD	5	22	3	13	5	25
KERO	6	29	4	21	7	31
KBAK	6	28	4	20	7	31
KNXT			-1		-1	1
KNBC			-1		-1	
KTIA			2	9	-1	
KABC			2	11	-1	
KHJ			3	16	1	4
KTTV			2	10	-1	
KCOP			-1	2		
			21		22	

Hut and Totals



KERN COUNTY WEST CATV SPECIAL REPORT  
AVERAGE QUARTER HOUR ESTIMATES

NOVEMBER 1968

DAY-PART AUDIENCE SUMMARY  
METRO AREA

Day-Part	Station	TOTAL		CATV		NON-CATV	
		METRO RATING	METRO SHARE	Metro Rat.	Metro Share	METRO RAT	NON-CATV SHARE
<u>Monday-Friday</u>							
<u>9 AM to 12 Noon</u>							
	KLYD	2	10	1	8	2	11
	KERO	6	30	5	36	6	28
	KBAK	8	43	4	28	9	47
	KNXT			-1		-1	
	KNBC			-1	1	1	7
	KTIA			1	5	-1	
	KABC			1	7	-1	1
	KHJ			1	7	-1	1
	KTTV			1	8	-1	1
	KCOP			-1	3		
Hut and Totals				15		20	
<u>Noon to 5 PM</u>							
	KLYD	6	25	3	14	7	29
	KERO	8	32	6	26	8	34
	KBAK	6	23	4	16	6	26
	KNXT			1	4	-1	2
	KNBC			1	4	1	3
	KTIA			2	10	-1	
	KABC			1	3	-1	
	KHJ			4	16	-1	1
	KTTV			1	6	-1	
	KCOP			1	4		
Hut and Totals				22		25	
<u>5 PM to 7:30 PM</u>							
	KLYD	11	22	4	7	14	27
	KERO	19	37	12	23	21	42
	KBAK	9	17	3	6	11	22
	KNXT			4	7	-1	
	KNBC			5	9	1	2
	KTIA			6	12	1	1
	KABC			5	9	-1	1
	KHJ			5	9	-1	1
	KTTV			5	9	1	1
	KCOP			5	11		
Hut and Totals				52		51	
<u>5 PM to 7 PM</u>							
	KLYD	11	22	4	7	14	28
	KERO	19	39	13	26	21	43
	KBAK	8	16	2	3	10	20
	KNXT			5	9	-1	
	KNBC			5	9	1	2
	KTIA			7	13	1	1
	KABC			4	8	-1	1
	KHJ			4	8	-1	1
	KTTV			4	7	-1	
	KCOP			6	11		
Hut and Totals				51		50	





DAY-PART AUDIENCE SUMMARY

Day-Part	Station	METRO AREA		TOTAL		CATV		Household	
		MET	NET	Metro Rat.	Metro Share	H + S	Share		
<u>Sun thru Sat</u>	KLYD	14	25	11	17	15	22		
<u>7:30 PM to 11 PM</u>	KERO	21	36	20	31	21	39		
	KBAK	14	23	11	18	14	26		
	KNXT			1	2	1	1		
	KNBC			3	5	1	1		
	KTLA			5	8	-1	1		
	KABC			2	4	-1	1		
	KHJ			3	5	-1			
	KTTV			6	10	1	2		
	KCOP			2	4				
Net and Totals				64		56			
<u>7:30 PM to 9 PM</u>	KLYD	16	25	11	16	17	22		
	KERO	22	35	19	28	23	27		
	KBAK	14	22	10	15	15	25		
	KNXT			1	2	1	1		
	KNBC			6	9	1	2		
	KTLA			5	7	-1			
	KABC			2	3	-1	1		
	KHJ			5	7	-1			
	KTTV			8	11	2	3		
	KCOP			3	4				
Net and Totals				68		61			
<u>9 PM to 11 PM</u>	KLYD	13	25	11	19	14	27		
	KERO	20	38	20	34	20	39		
	KBAK	13	25	12	20	14	27		
	KNXT			1	1	1	1		
	KNBC			1	1	-1	1		
	KTLA			6	9	-1	1		
	KABC			2	4	-1	1		
	KHJ			2	3	-1			
	KTTV			5	9	1	2		
	KCOP			2	3				
Net and Totals				60		52			
<u>9 AM to Midnight</u>	KLYD	8	23	5	15	9	20		
	KERO	11	33	9	26	12	30		
	KBAK	8	24	6	16	9	20		
	KNXT			1	4	-1	1		
	KNBC			2	5	1	1		
	KTLA			3	9	-1			
	KABC			2	6	-1	1		
	KHJ			3	8	-1	1		
	KTTV			3	9	-1	1		
	KCOP			2	5				
Net and Totals				37		34			



NOVEMBER 1968

DAY-PART AUDIENCE SUMMARY  
METRO AREA

<u>Day-Part</u>	<u>Station</u>	<u>TOTAL</u>		<u>CATV</u>		<u>NON-CATV</u>	
		<u>MET</u> <u>RAT.</u>	<u>MET.</u> <u>SHARE</u>	<u>Metro</u> <u>Rat.</u>	<u>Metro</u> <u>Share</u>	<u>MET</u> <u>RATING</u>	<u>MET</u> <u>SHARE</u>
<u>Sun thru Sat</u>	KLYD	8	23	5	14	8	27
<u>Sign On / Off.</u>	KERO	11	34	9	27	11	37
	KBAK	8	24	5	16	9	27
	KNXT			1	4	-1	1
	KNBC			1	5	1	2
	KTIA			3	9	-1	1
	KABC			2	6	-1	1
	KHJ			3	8	-1	1
	KTTV			3	9	-1	1
	KCOP			2	5		
<u>Net and Totals</u>				29		27	



DAY-PART AUDIENCE SUMMARY  
METRO AREA

<u>Day-Part</u>	<u>Station</u>	<u>Metro Rat.</u>	<u>Metro Share</u>
<u>Monday-Friday</u>			
<u>9 AM to 12 Noon</u>	KLYD	2	11
	KERO	6	28
	KBAK	9	47
	KNXT	-1	
	KNBC	1	7
	KTLA	-1	
	KABC	-1	1
	KHJ	-1	1
	KTTV	-1	1
Hut and Totals		20	
<u>Noon to 5 PM</u>	KLYD	7	29
	KERO	8	34
	KBAK	6	26
	KNXT	-1	2
	KNBC	1	3
	KTLA	-1	
	KABC	-1	
	KHJ	-1	1
	KTTV	-1	
Hut and Totals		25	
<u>5 PM to 7:30 PM</u>	KLYD	14	27
	KERO	21	42
	KBAK	11	22
	KNXT	-1	
	KNBC	1	2
	KTLA	1	1
	KABC	-1	1
	KHJ	-1	1
	KTTV	1	1
Hut and Totals		51	
<u>5 PM to 7 PM</u>	KLYD	14	28
	KERO	21	43
	KBAK	10	20
	KNXT	-1	
	KNBC	1	2
	KTLA	1	1
	KABC	-1	1
	KHJ	-1	1
	KTTV	-1	
Hut and Totals		50	





DAY-PART AUDIENCE SUMMARY  
METRO AREA

<u>Day-Part</u>	<u>Station</u>	<u>Metro Rat.</u>	<u>Metro Share</u>
<u>Monday-Friday</u> <u>7 PM to 7:30 PM</u>	KLYD	15	27
	KERO	20	37
	KBAK	14	26
	KNXT	-1	1
	KNBC	1	1
	KTLA	-1	1
	KABC	1	2
	KHJ	-1	1
	KTTV	2	4
Hut and Totals		55	
<u>11 PM to 11:30 PM</u>	KLYD	2	12
	KERO	9	60
	KBAK	3	24
	KNXT	-1	1
	KNBC	-1	3
	KTLA	-1	1
	KABC	-1	
	KHJ	-1	
	KTTV	-1	
Hut and Totals		14	
<u>11:30 PM to 1 AM</u>	KLYD	1	20
	KERO	4	75
	KBAK	-1	4
	KNXT	-1	
	KNBC	-1	2
	KTLA	-1	
	KABC	-1	
	KHJ	-1	
	KTTV	-1	
Hut and Totals		6	
<u>Saturday</u> <u>9 AM to 12 Noon</u>	KLYD	5	25
	KERO	7	31
	KBAK	7	31
	KNXT	-1	1
	KNBC	-1	
	KTLA	-1	
	KABC	-1	
	KHJ	1	4
	KTTV	-1	
Hut and Totals		22	



KERN COUNTY WEST NON-CATV SPECIAL REPORT  
AVERAGE QUARTER HOUR ESTIMATES

NOVEMBER 1968

DAY-PART AUDIENCE SUMMARY  
METRO AREA

<u>Day-Part</u>	<u>Station</u>	<u>Metro Rat.</u>	<u>Metro Share</u>
<u>Sun thru Sat</u>	KLYD	15	28
<u>7:30 PM to 11 PM</u>	KERO	21	39
	KBAK	14	26
	KNXT	1	1
	KNBC	1	1
	KTLA	-1	1
	KABC	-1	1
	KHJ	-1	
	KTTV	1	2
Hut and Totals		56	
<u>7:30 PM to 9 PM</u>	KLYD	17	28
	KERO	23	38
	KBAK	15	25
	KNXT	1	1
	KNBC	1	2
	KTLA	-1	
	KABC	-1	1
	KHJ	-1	
	KTTV	2	3
Hut and Totals		61	
<u>9 PM to 11 PM</u>	KLYD	14	27
	KERO	20	39
	KBAK	14	27
	KNXT	1	1
	KNBC	-1	1
	KTLA	-1	1
	KABC	-1	1
	KHJ	-1	
	KTTV	1	2
Hut and Totals		52	
<u>9 AM to Midnight</u>	KLYD	9	27
	KERO	12	36
	KBAK	9	27
	KNXT	-1	1
	KNBC	1	2
	KTLA	-1	1
	KABC	-1	1
	KHJ	-1	1
	KTTV	-1	1
Hut and Totals		34	



KERN COUNTY WEST NON-CATV SPECIAL REPORT  
 AVERAGE QUARTER HOUR ESTIMATES

NOVEMBER 1968

DAY-PART AUDIENCE SUMMARY  
METRO AREA

<u>Day-Part</u>	<u>Station</u>	<u>Metro Rat.</u>	<u>Metro Share</u>
<u>Sun thru Sat</u>	KLYD	8	27
<u>Sign On / Off</u>	KERO	11	37
	KBAK	9	27
	KNXT	-1	1
	KNBC	1	2
	KTLA	-1	1
	KABC	-1	1
	KHJ	-1	1
	KTTV	-1	1
		27	
Hut and Totals			



## Appendix 4 to Economic Report on CATV-TV Interface

### Commercial Substitution Plan

As described in Second Further Notice of Proposed Rule Making in Docket 18397-A adopted June 24, 1970 by the Commission.

Extract starting on pg. 3 of Further Notice, paragraph 5

The essence of the proposal is that CATV systems in the top 100 markets 6/, in addition to local signals, may carry four distant independent signals 7/, but will be required to delete commercials from the independent distant stations they carry 8/ and replace them with commercials provided by the local stations 9/ as follows:

- (a) If there are independent UHF stations in the market, the commercials provided by these stations will be substituted.
- (b) If there are no independent UHF stations in an intermixed market, the commercials of the UHF network affiliates will be substituted.

6/ We propose to use the definition set forth in the December 13th Notice -- 100 designated markets and the 35-mile zone. Parties are free to comment on other proposals (e.g., top 100 markets defined by ARB; top 100 SSMA's, as defined by the U.S. Census Bureau).

7/ In addition, we raise the question whether in markets which do not have 3 full network affiliates, CATV should be allowed to carry the "missing" affiliate from a distant market. The figure four is used tentatively for the rule making proposal. The principle will be to give the CATV sufficient distant independent signals to permit the success of its operation in the major markets, and at the same time take into account the matter of undue impact on the local stations not participating in the commercial substitution plan. Thus, any figure selected could be increased or decreased on the basis of later experience.

8/ It is contemplated that the CATV could bring in four non-network signals at one time, without regard to their nature (i.e., including the signals of network affiliated stations during their non-network periods). The above deletion thus extends to the non-network portion of any distant network affiliates carried. The plan does not affect network programming; the local network affiliate would continue to receive the important carriage and non-duplication protection.

9/ We request comment on the appropriate definition of the term, "local station" (e.g., the system is within the 35-mile zone of the community to which the station is licensed).





(c) In all-VHF markets or all UHF markets, after a period of two years to permit applicants for the new UHF stations time to obtain permits, the commercials of all the local stations will be substituted.

(d) Any local station, upon special showing of a threat to its viability or its ability to adequately serve the public, will also be given the right to provide their commercials for substitution. The station need not wait for impact resulting from CATV to seek such relief, but may do so at any time, by the submission of an appropriate detailed showing.

Any procedure for commercial insertions in the distant signals will be satisfactory if agreed upon in writing by those local stations involved in supplying commercials for substitution. 10/ Under the proposal, CATVs may carry any number of distant non-commercial educational stations if no objection is made by the local educational licensee or permittee at the time he is informed of the system's intention to carry the distant stations. Upon request of such licensee or permittee, the CATV would, at its own expense, delete appeals for funds on distant stations and substitute appeals provided by the local entity.

10/ In the absence of such agreement, the following procedure is proposed to make an equitable distribution: The number of distant signals will be divided equally among the eligible local stations in the market, with the local stations rotating the order of choosing distant signals each year; the first choice of any remaining distant signals will go first to the local station with first choice, second to local stations with second choice, etc. For example if local stations A, B and C are to divide four distant signals, in the first year A will choose the first signal, B the second, C the third, and A the fourth. In the second year, B will choose first, C second, etc., and in the third year, C will choose first, A second, etc. (If not enough distant signals are being brought in to provide a channel of commercial substitution for each UHF station,

another equitable arrangement, such as rotation on a daily basis, may be employed). The order of choice for the starting year will be determined by the highest 30 second time charge in the station's published rate card in effect on September 1 last -- the station with the lowest rate will have first choice, second lowest second choice, etc.





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